

Fig 1A

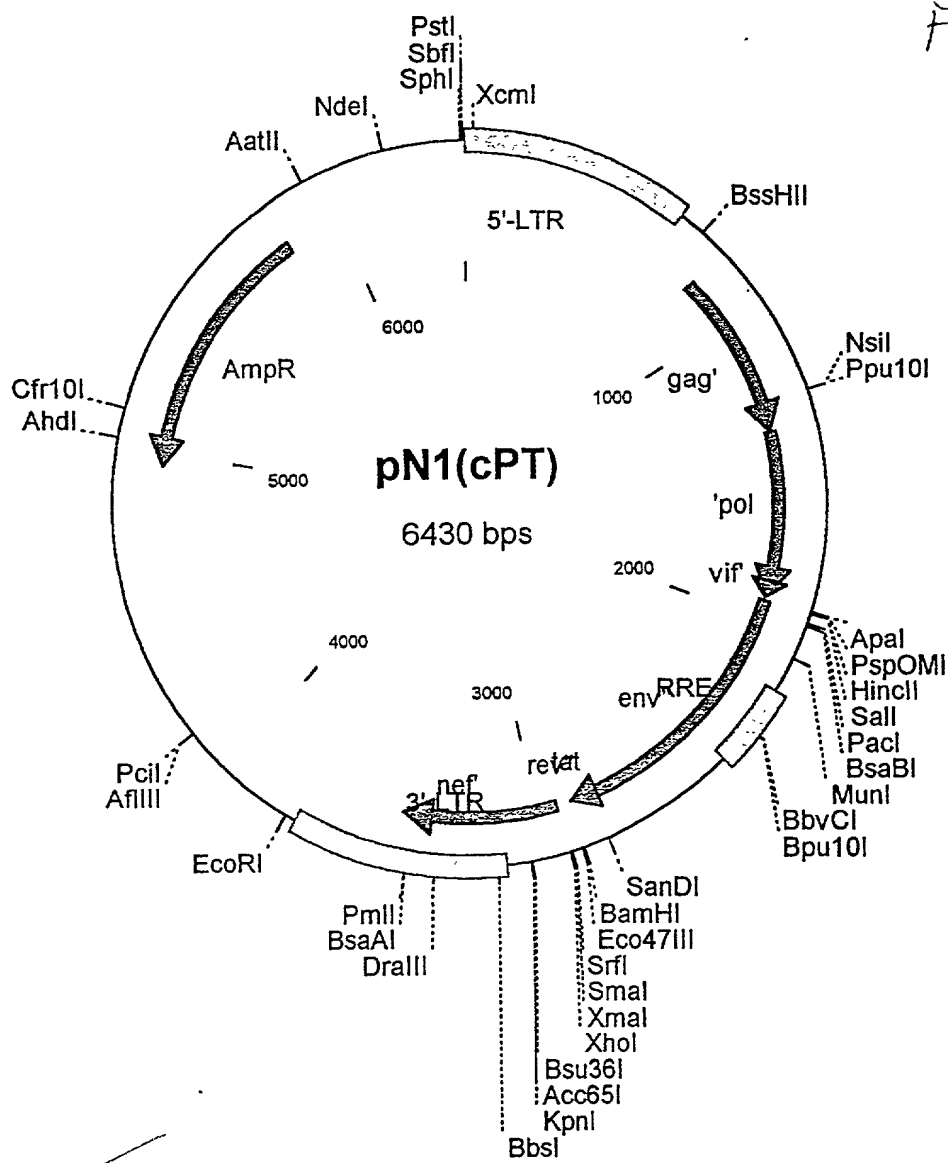


Fig 1B

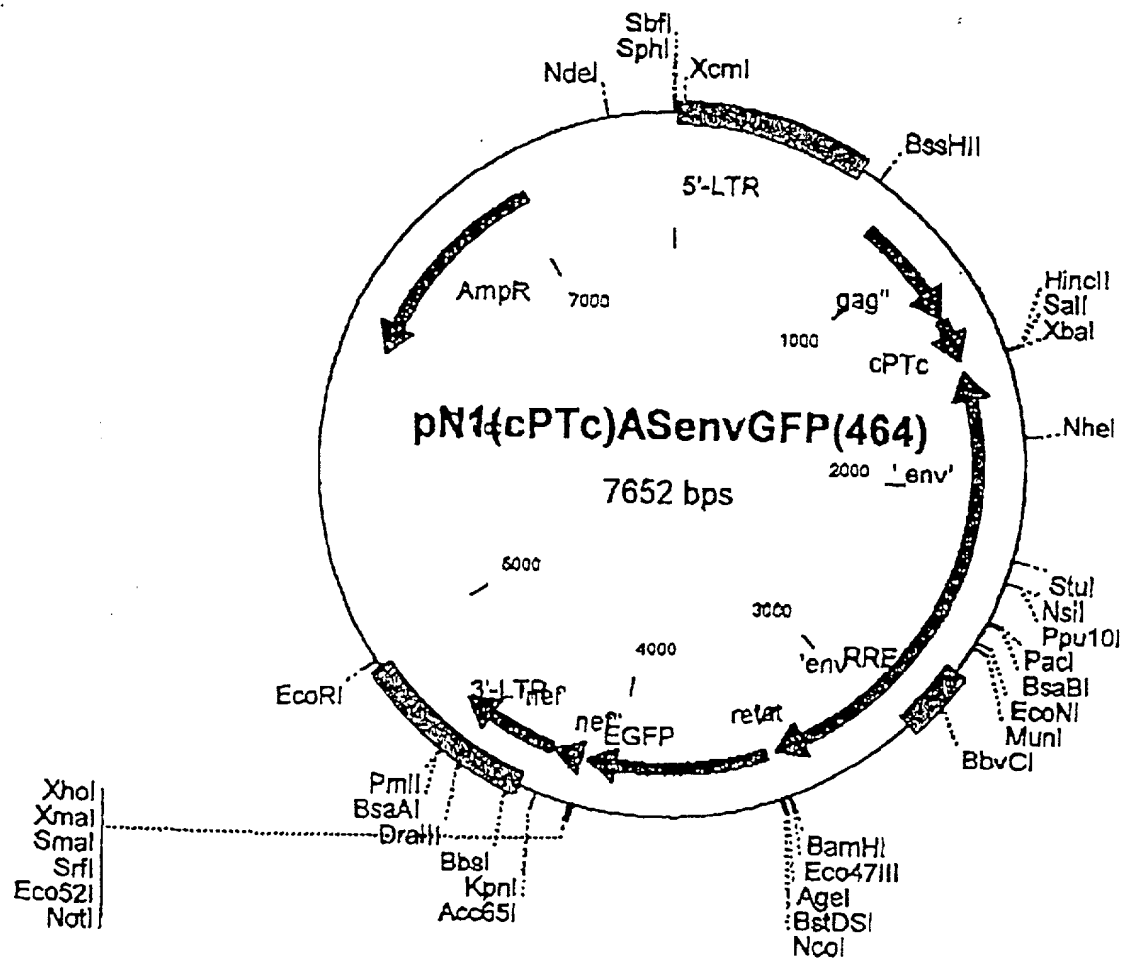


Fig 1C

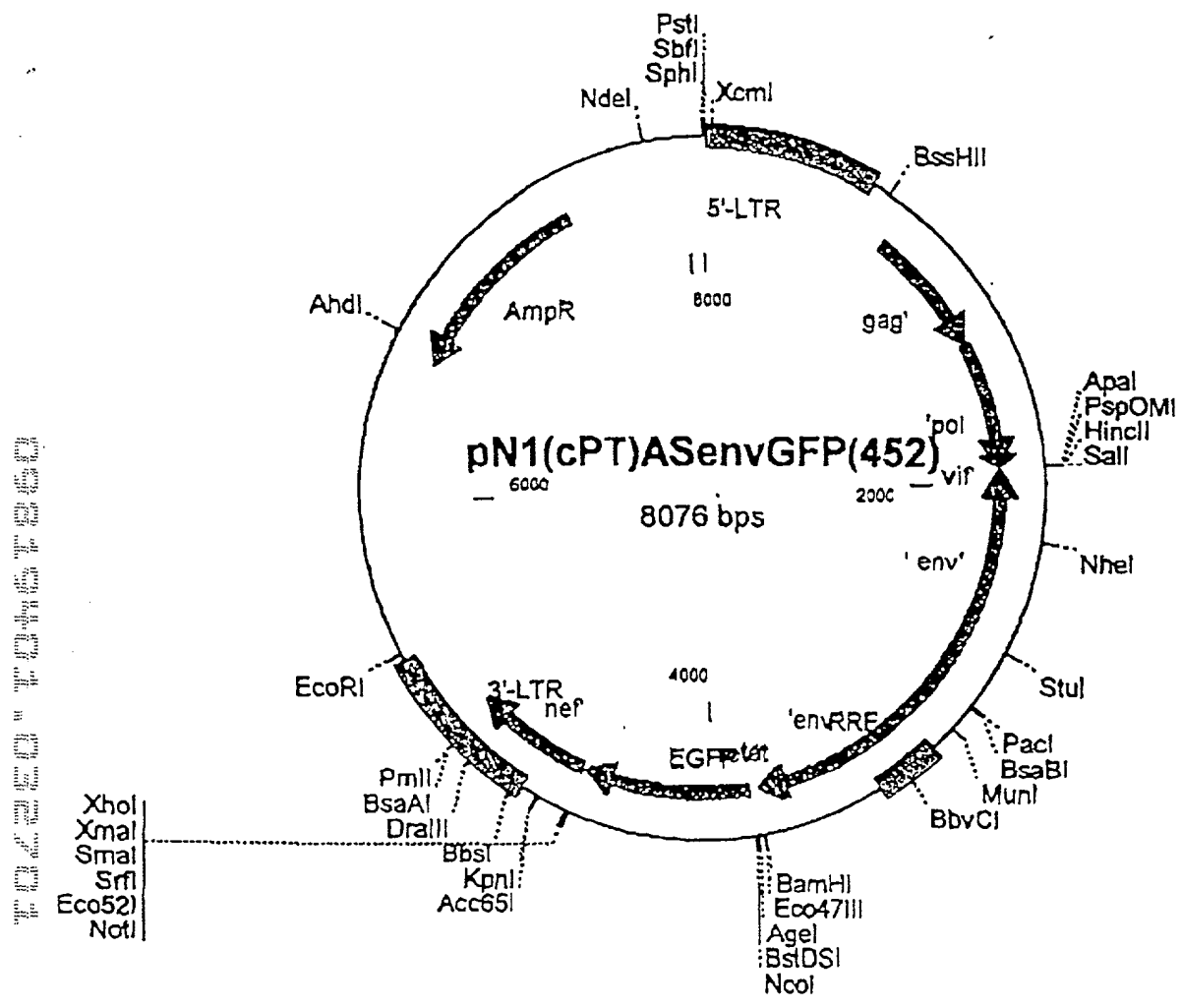


Fig 11

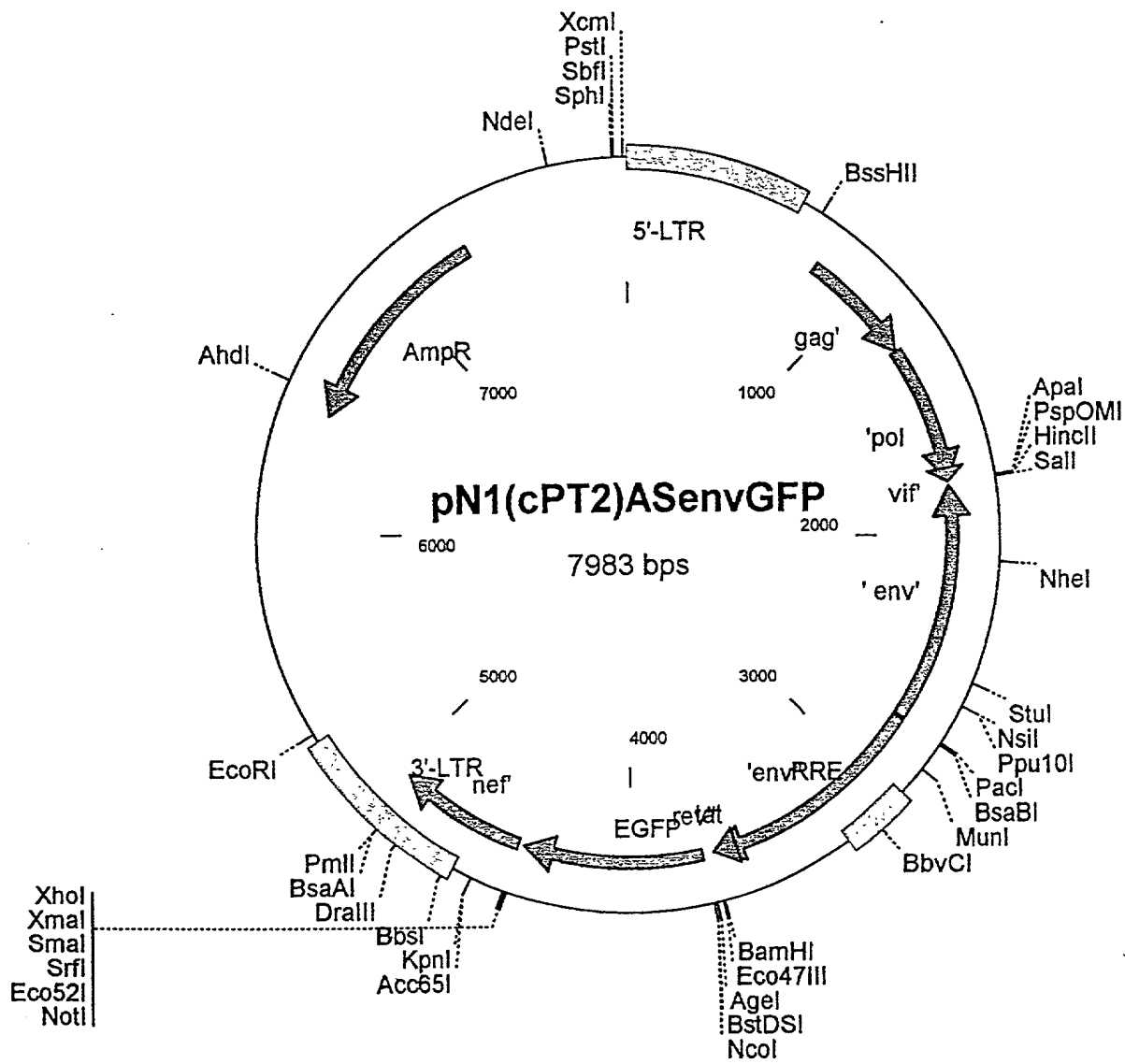


Fig 1E

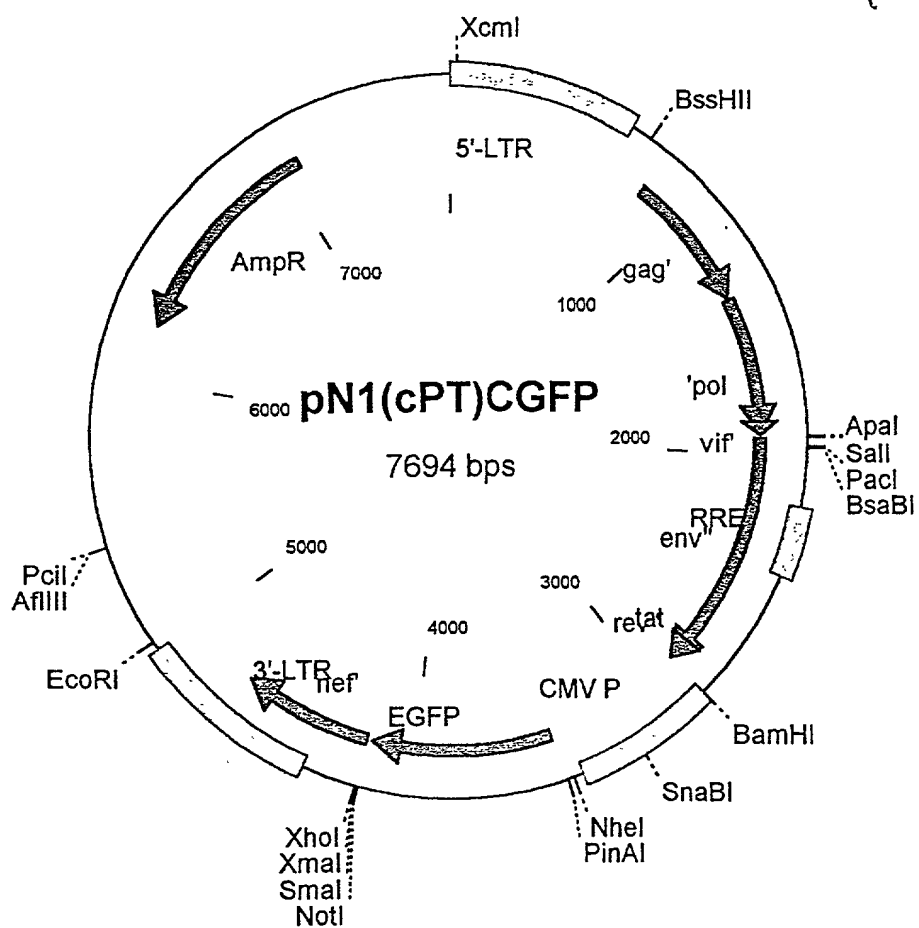


Fig 1F

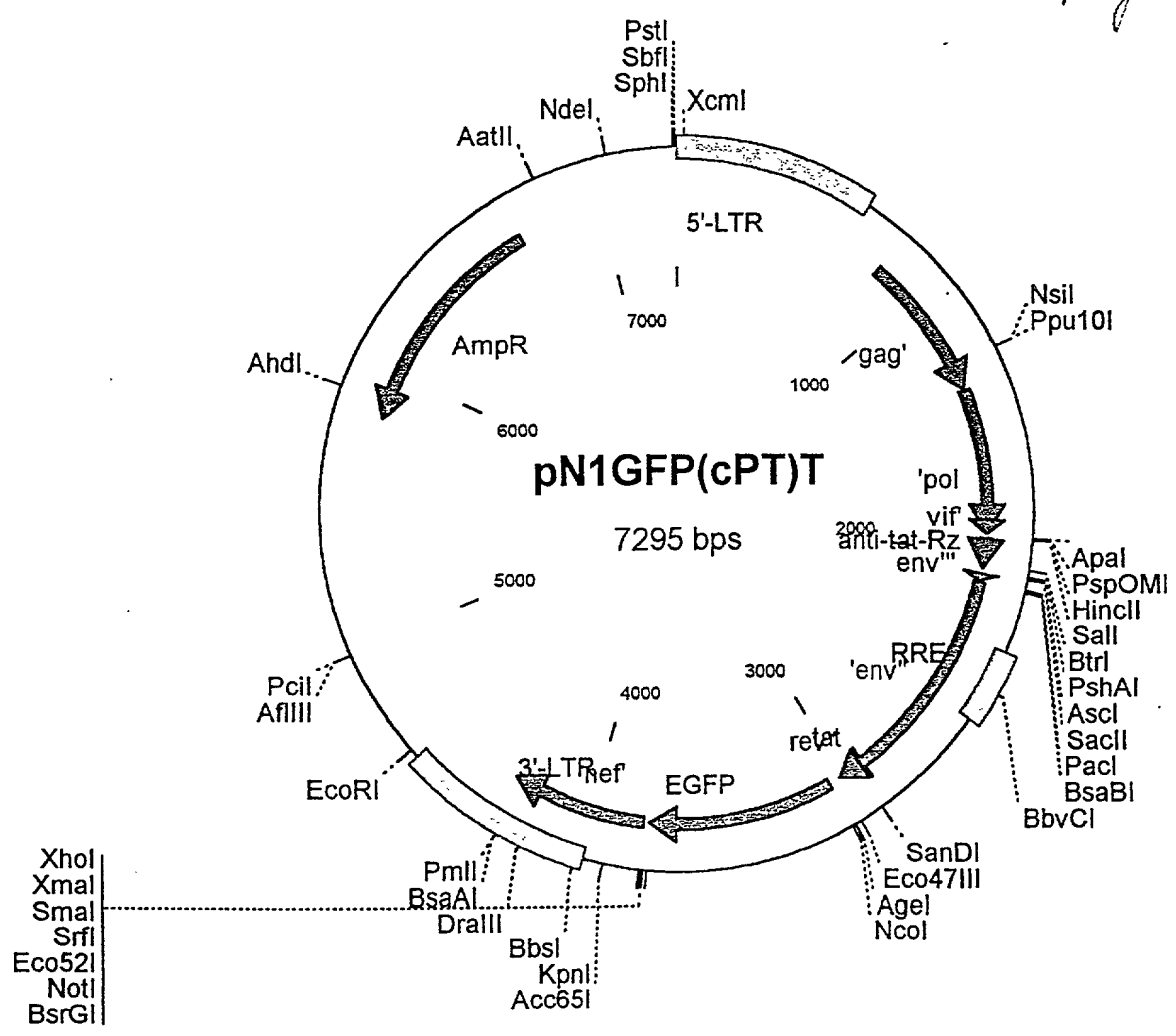


Fig 16

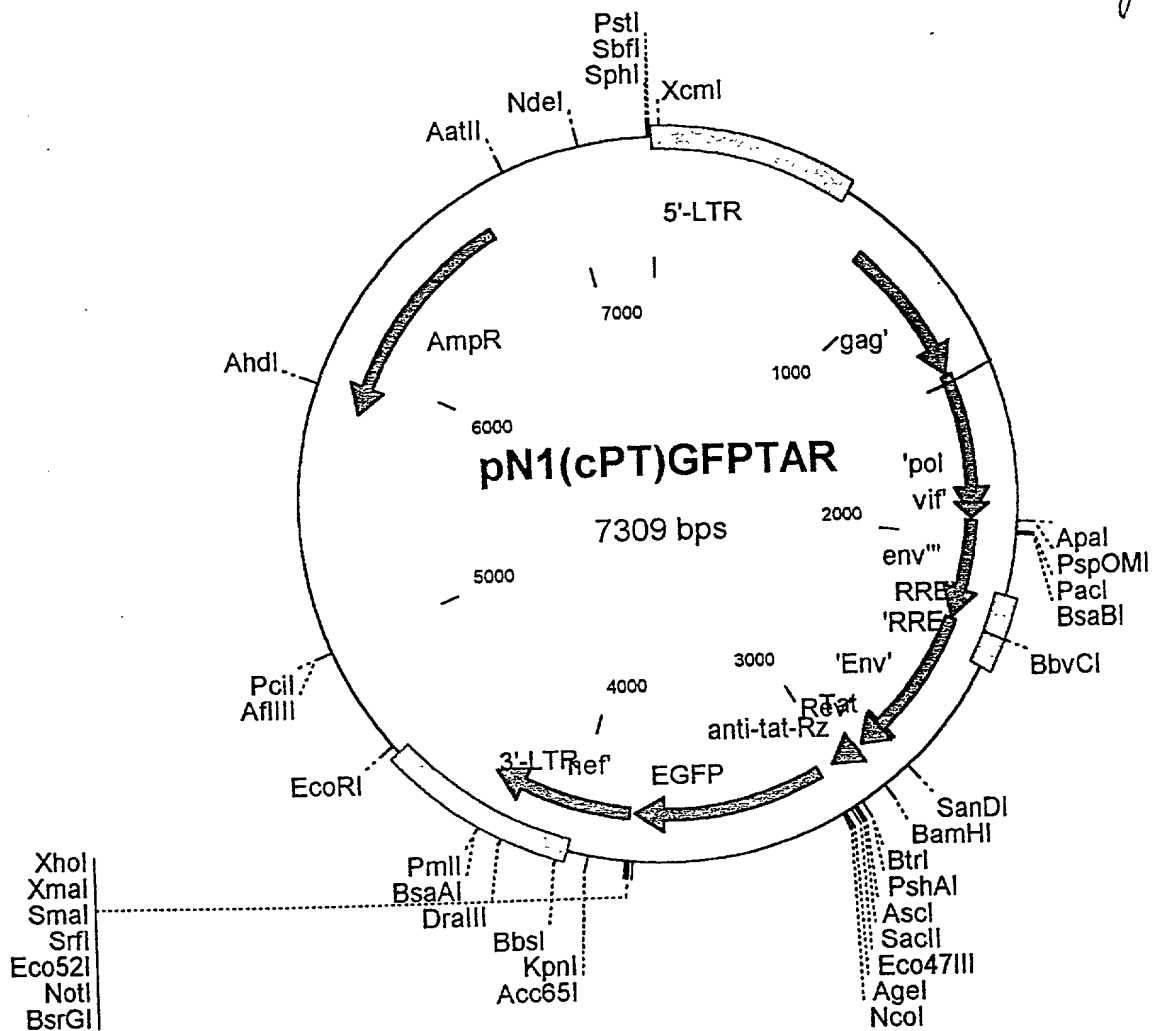
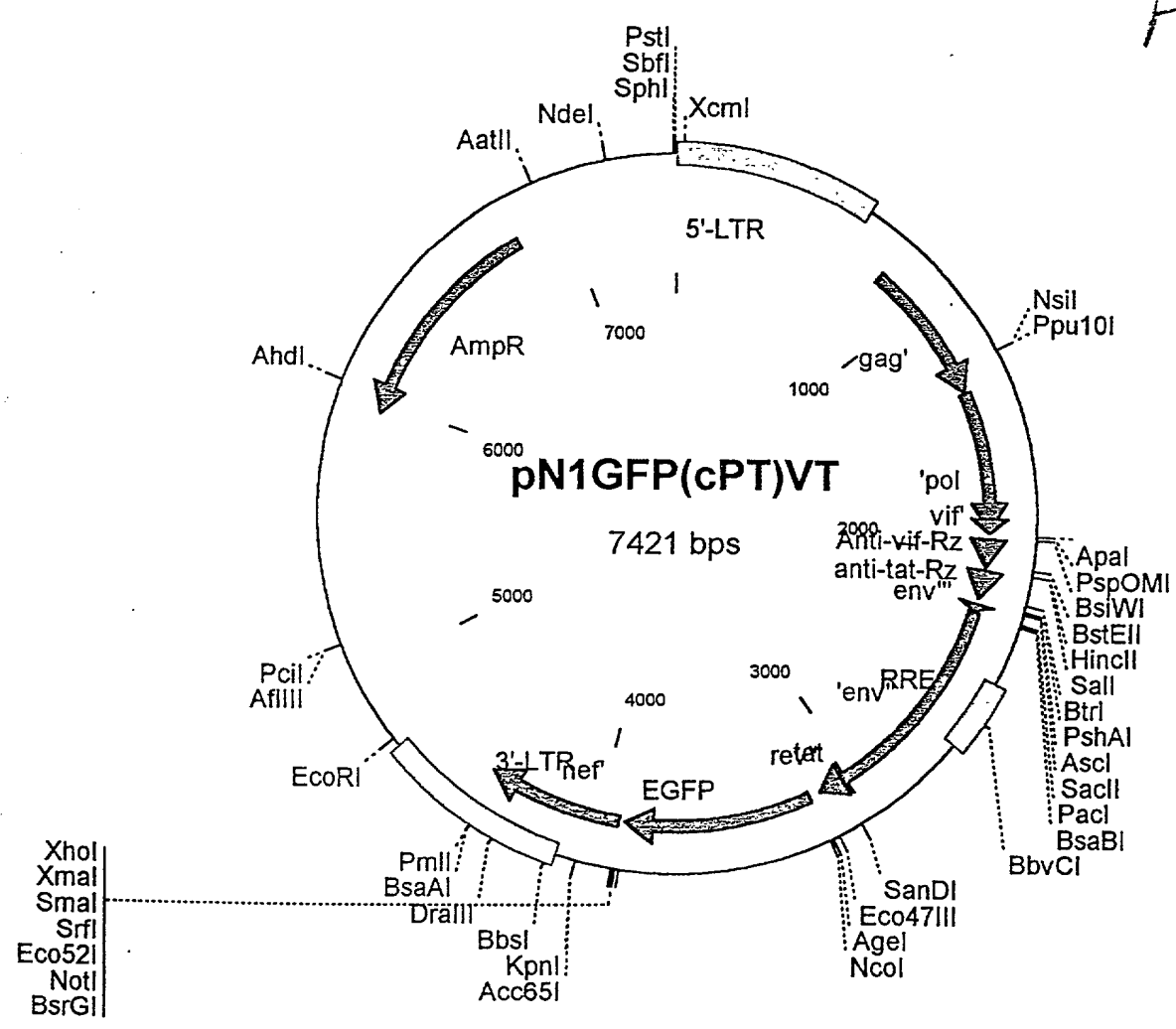


Fig 1H

7000 6000 5000 4000 3000 2000 1000





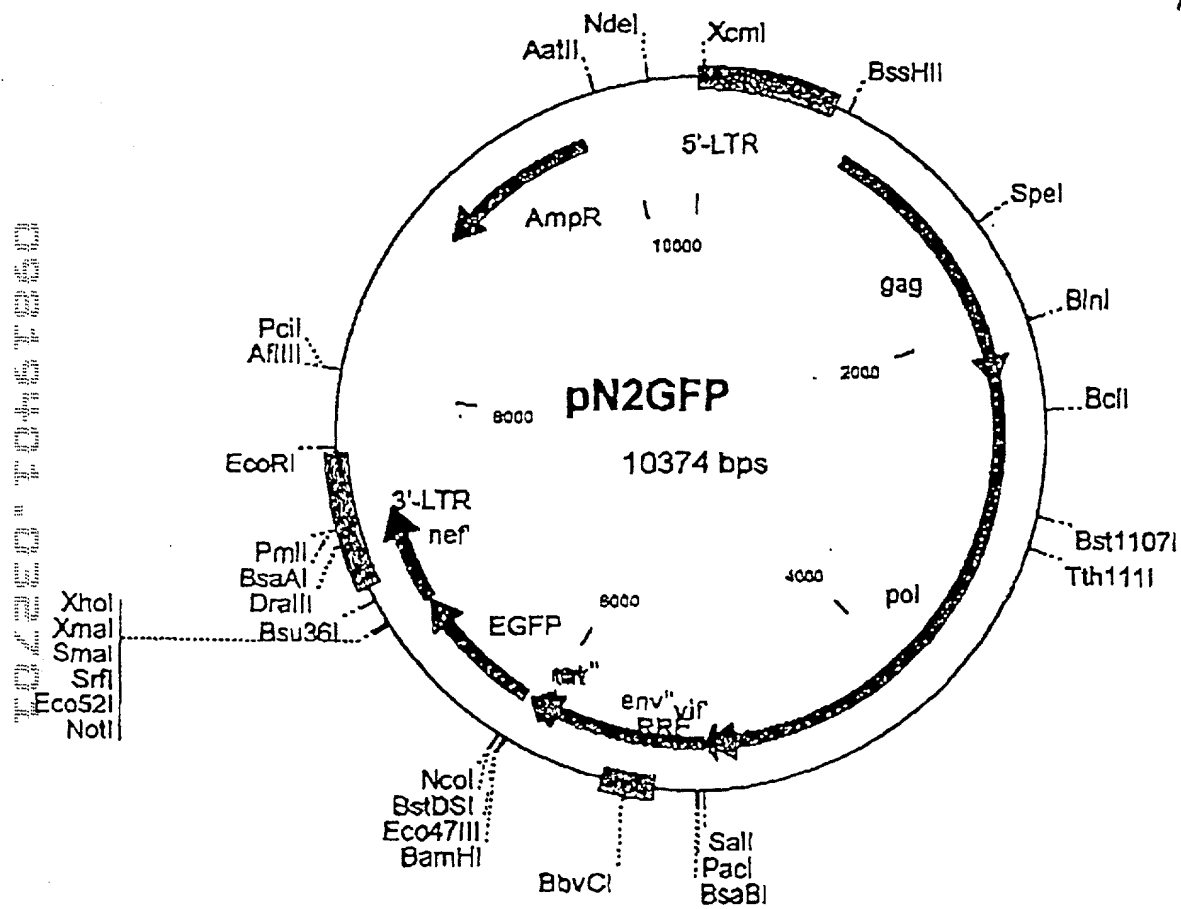


Fig 1 I

Fig 1J

100000  
10000  
1000  
100  
10  
1

XhoI  
XmaI  
SmaI  
SrfI  
Eco52I  
NotI

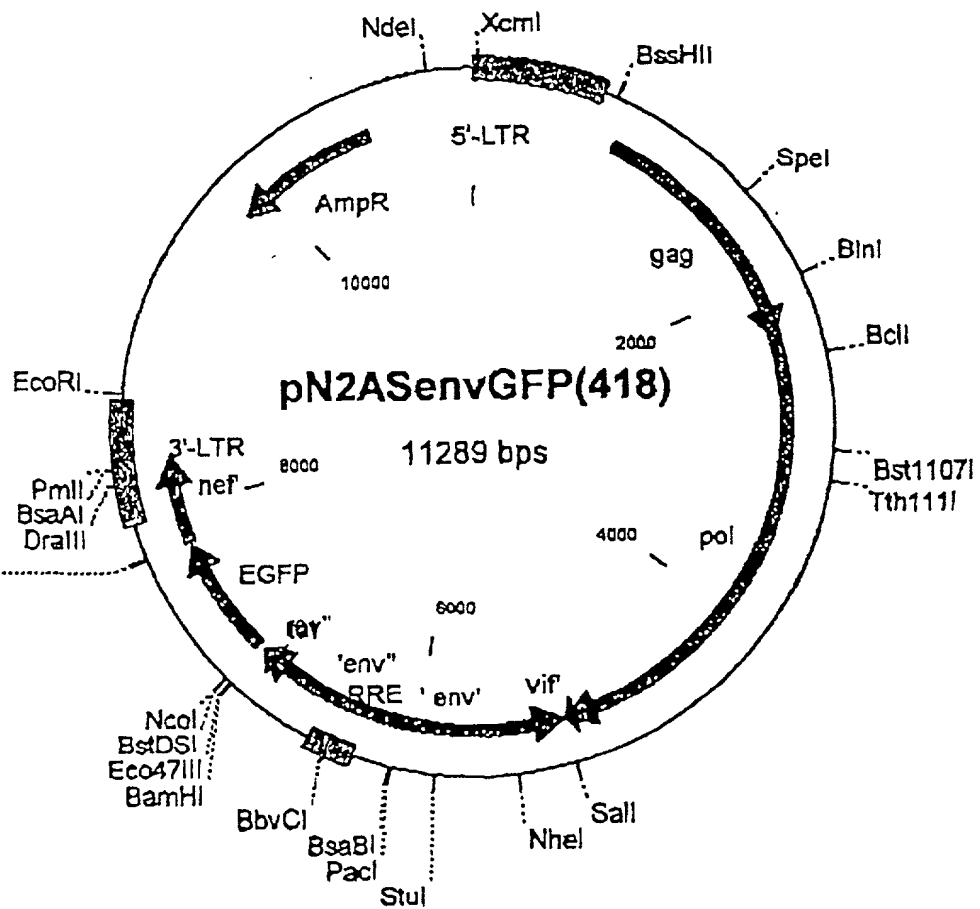
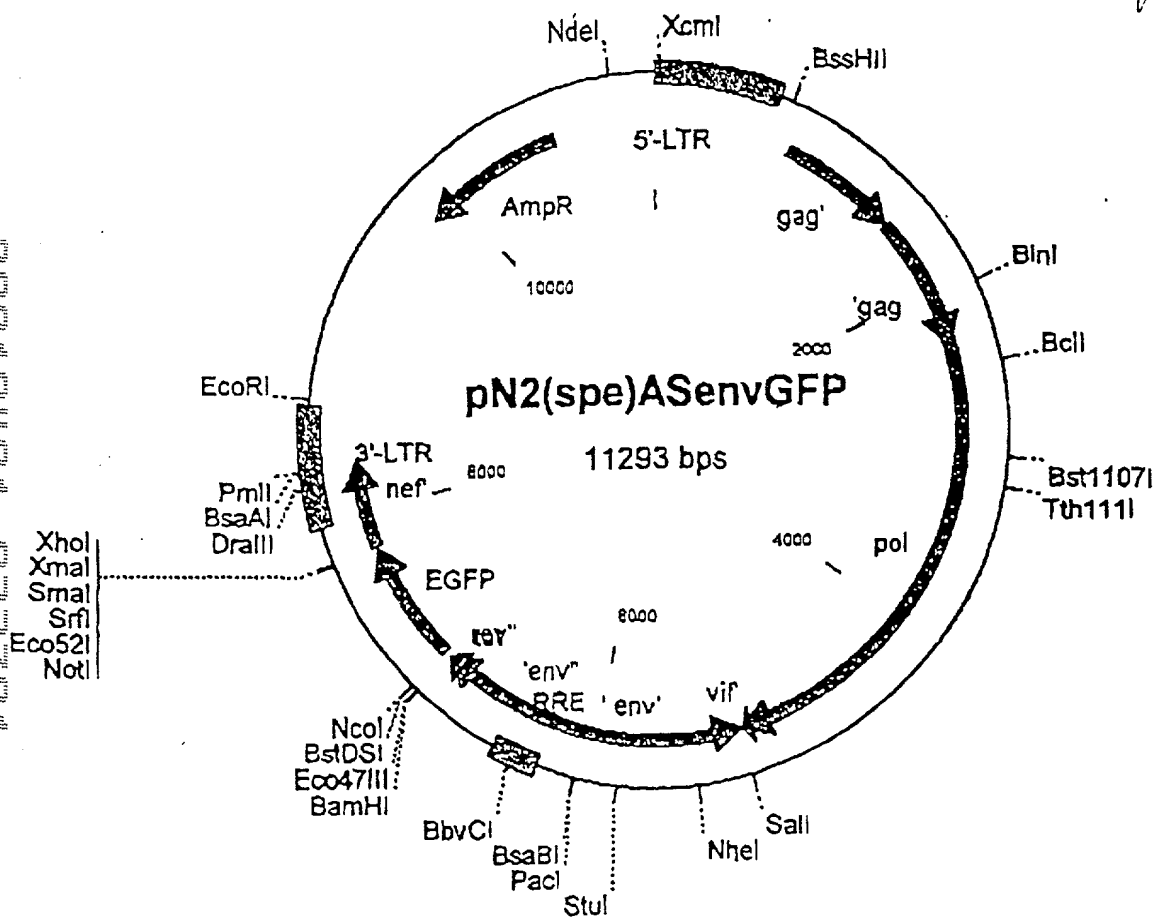


Fig 1K



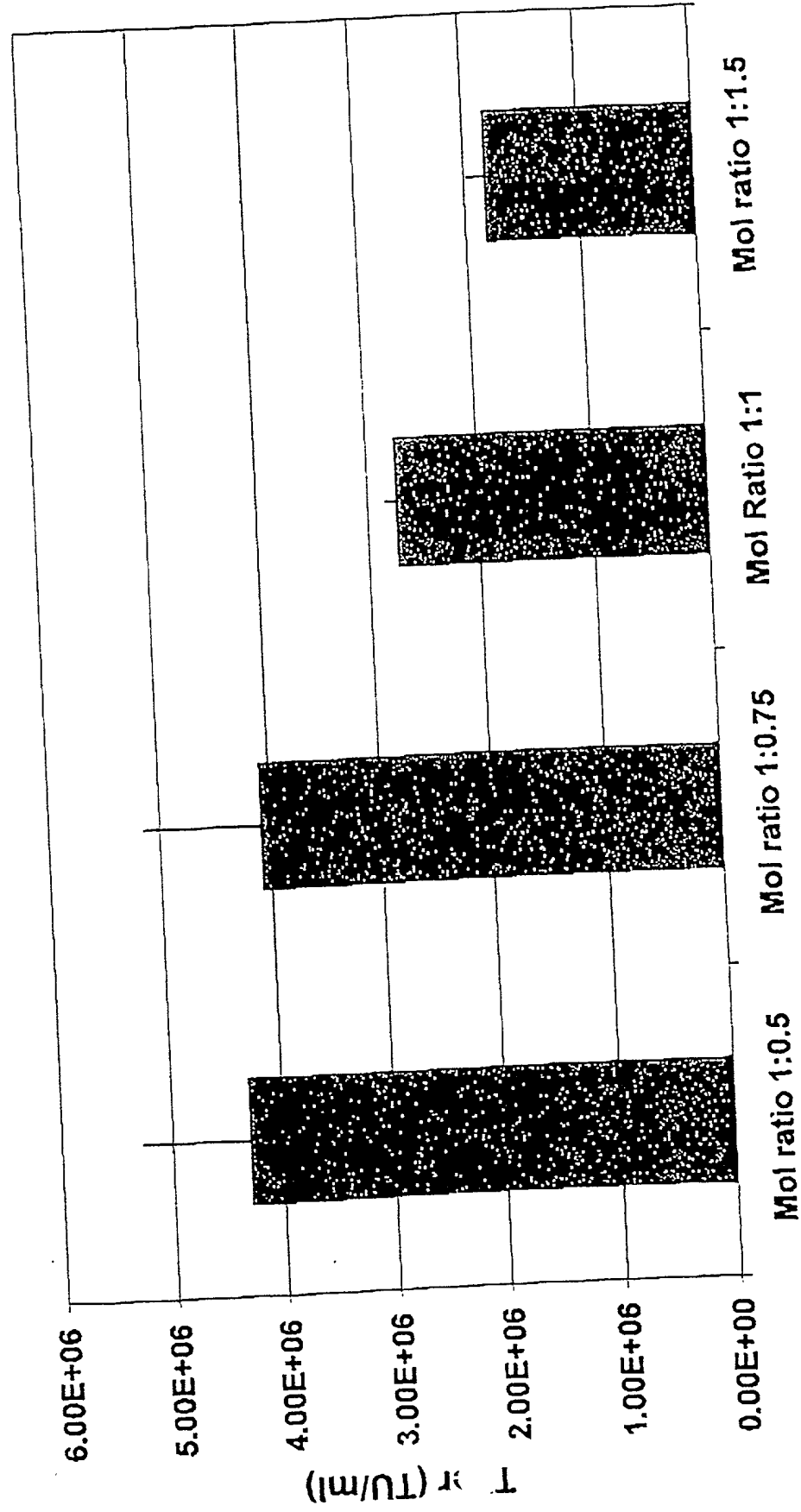
A +105 GTGTGCCCCGTCTG +117  
B .....AC....

A +118 TTGTGTGACTCTG +130  
B .....

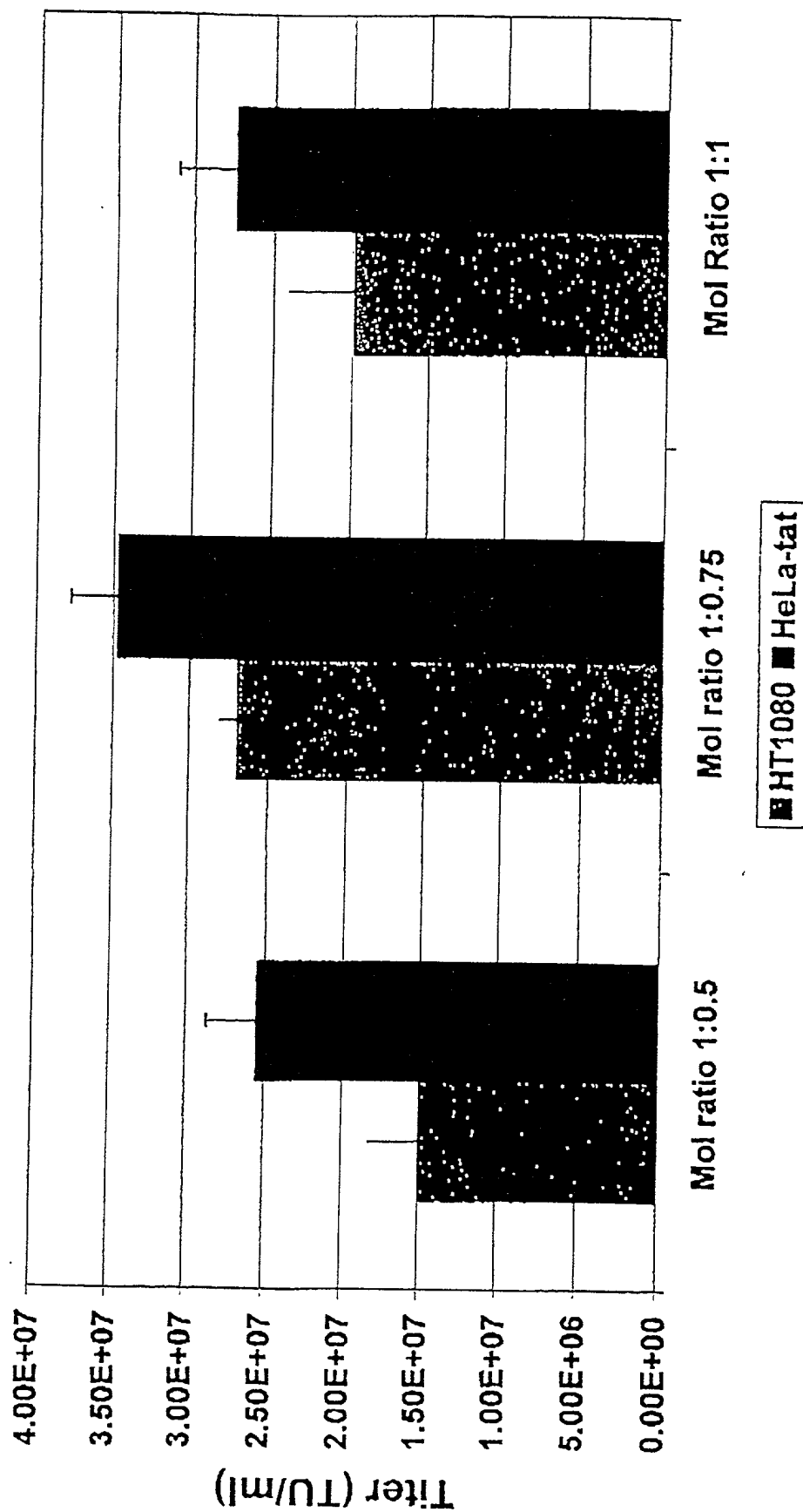
A +131 GTAAC TAGAGATC +143  
B .C.G.....A.

**FIG. 2**

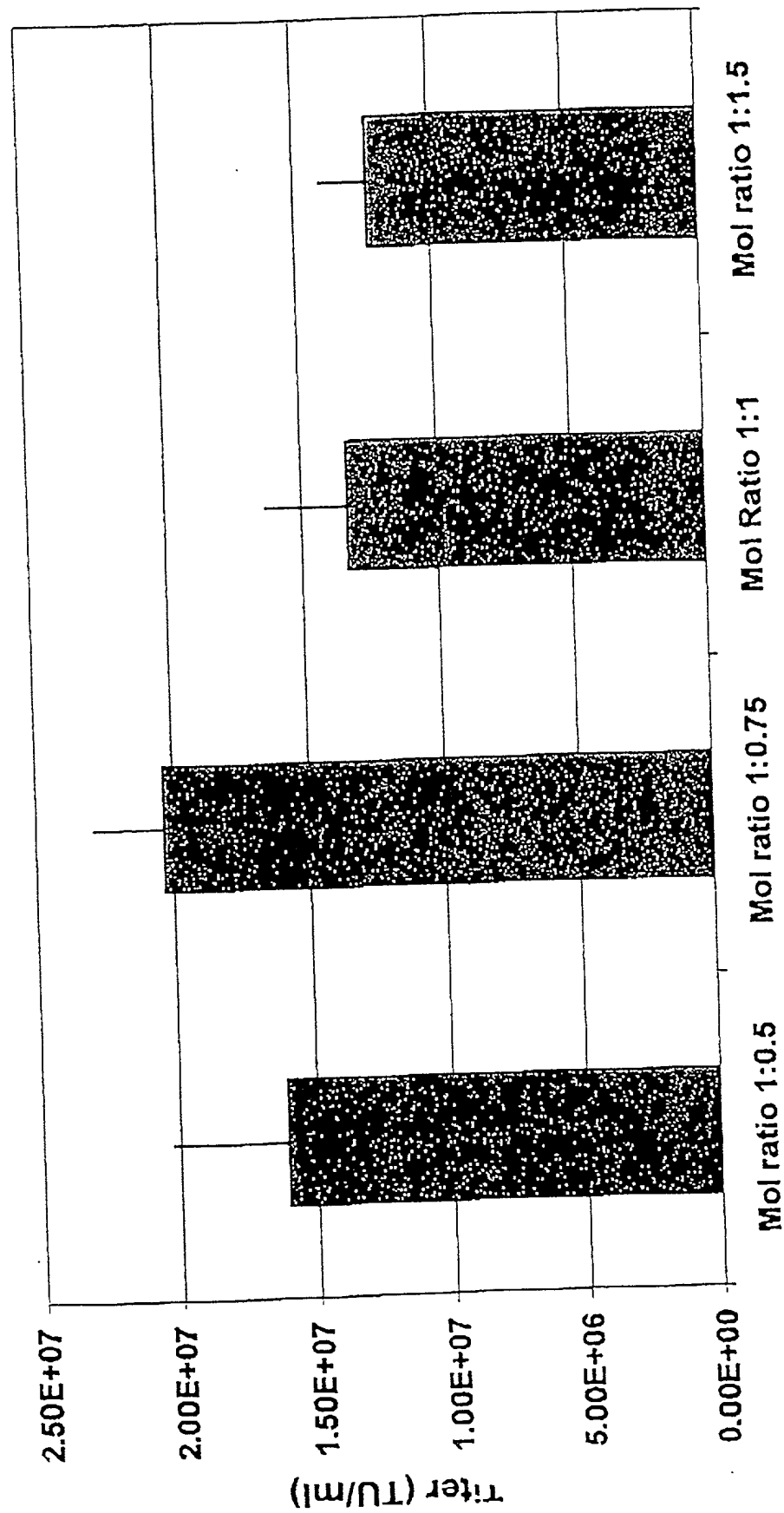
# Ratio Optimization for pN1(cPTC)ASenvGFP Vector



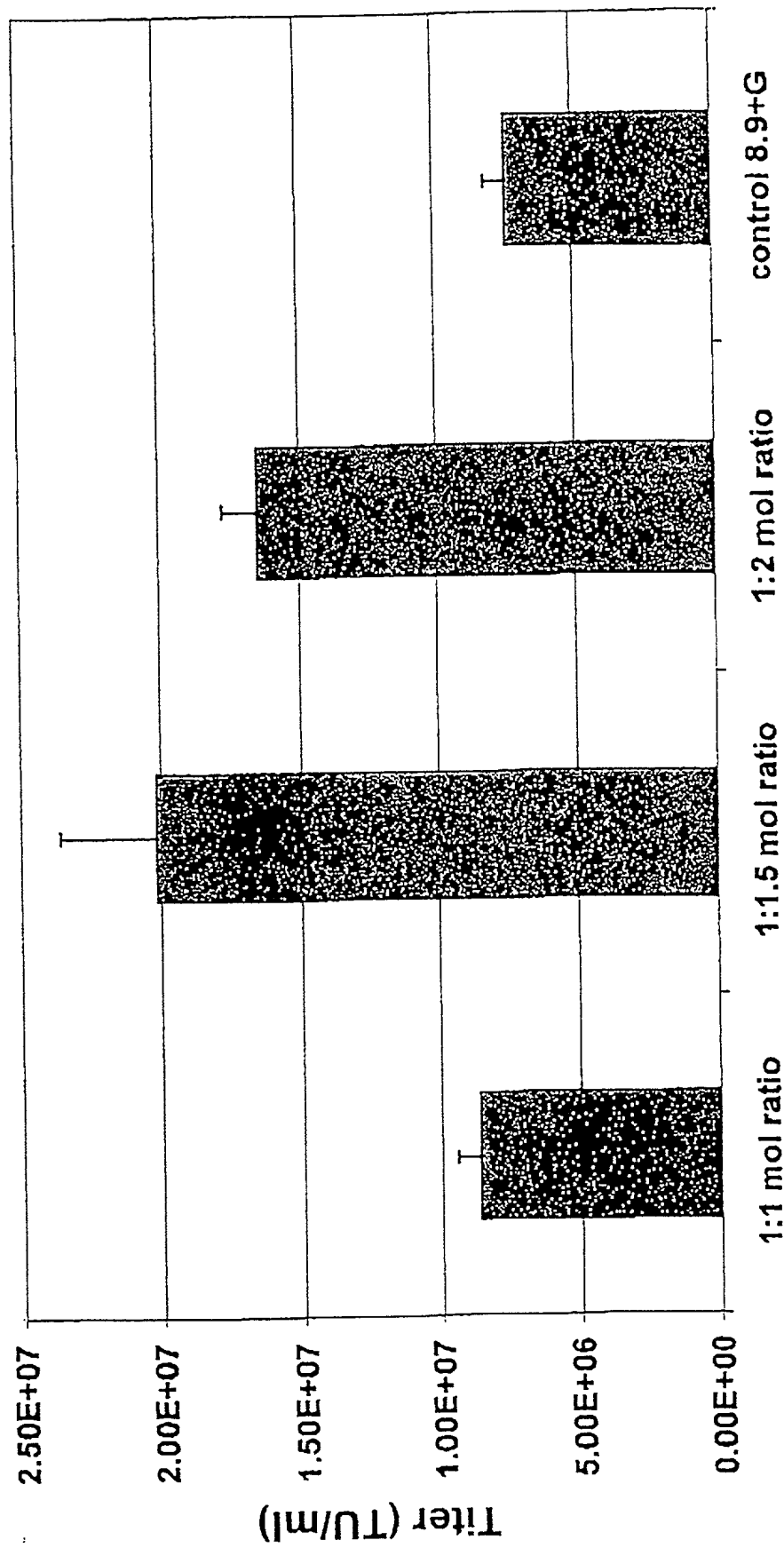
# Ratio Optimization for pN1(cPT)GFP Vectors



## Ratio Optimization for pN1(cPT2)ASenvGFP Vector



## Best Vector to Packaging Ratio for pN1cGFP Vector





## Optimization of vector to packaging ratio for pN2cGFP

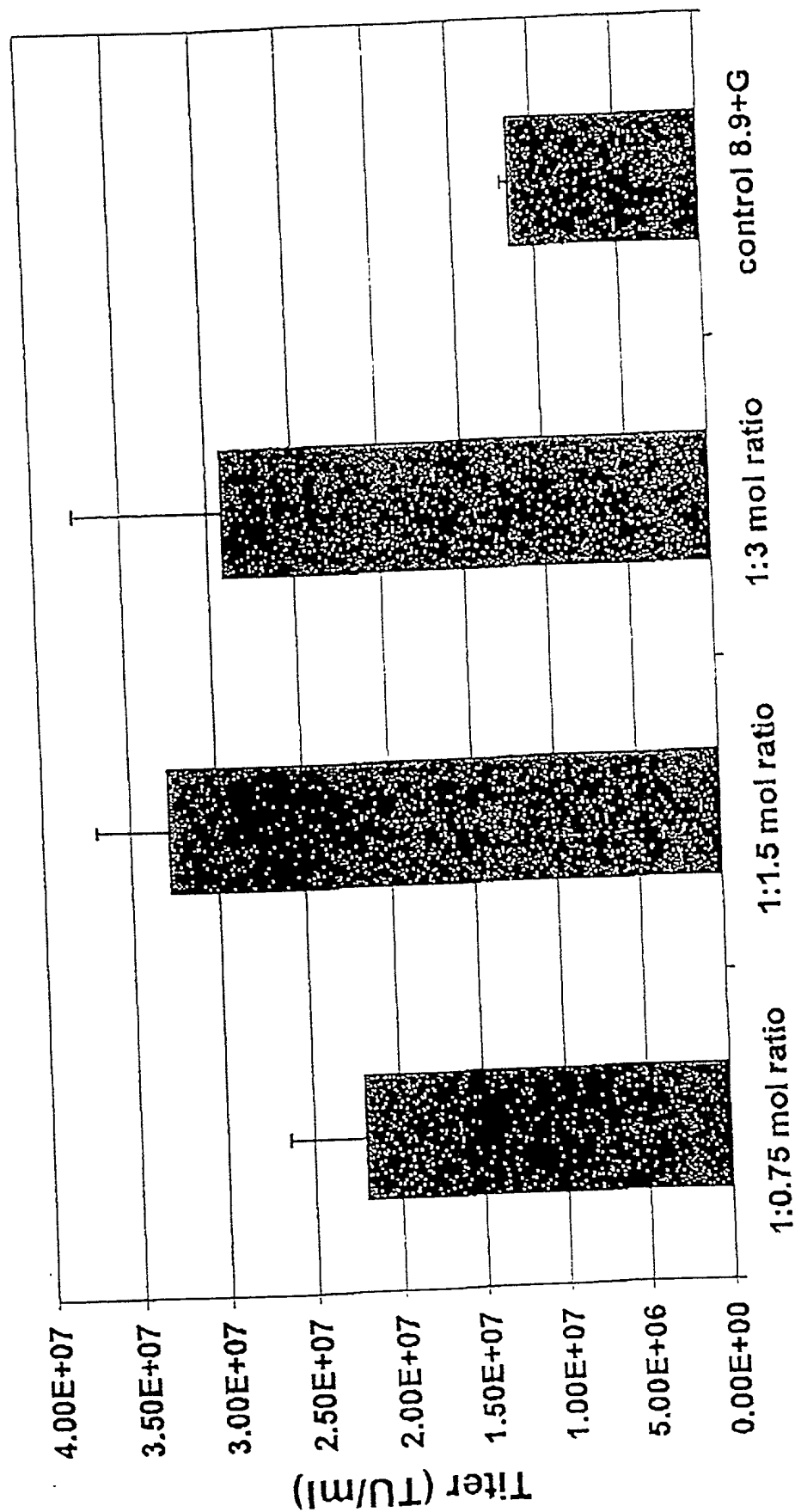


Fig 4A

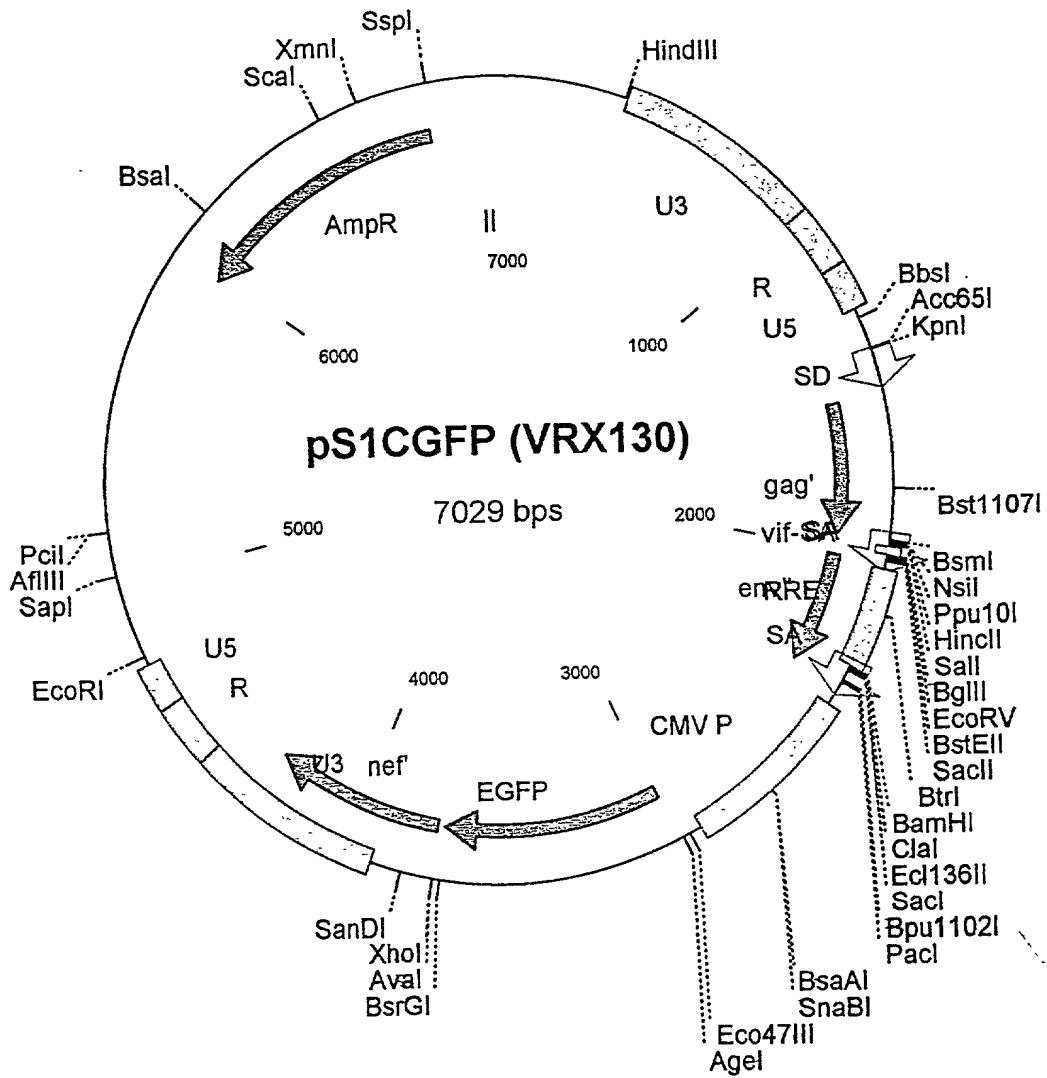
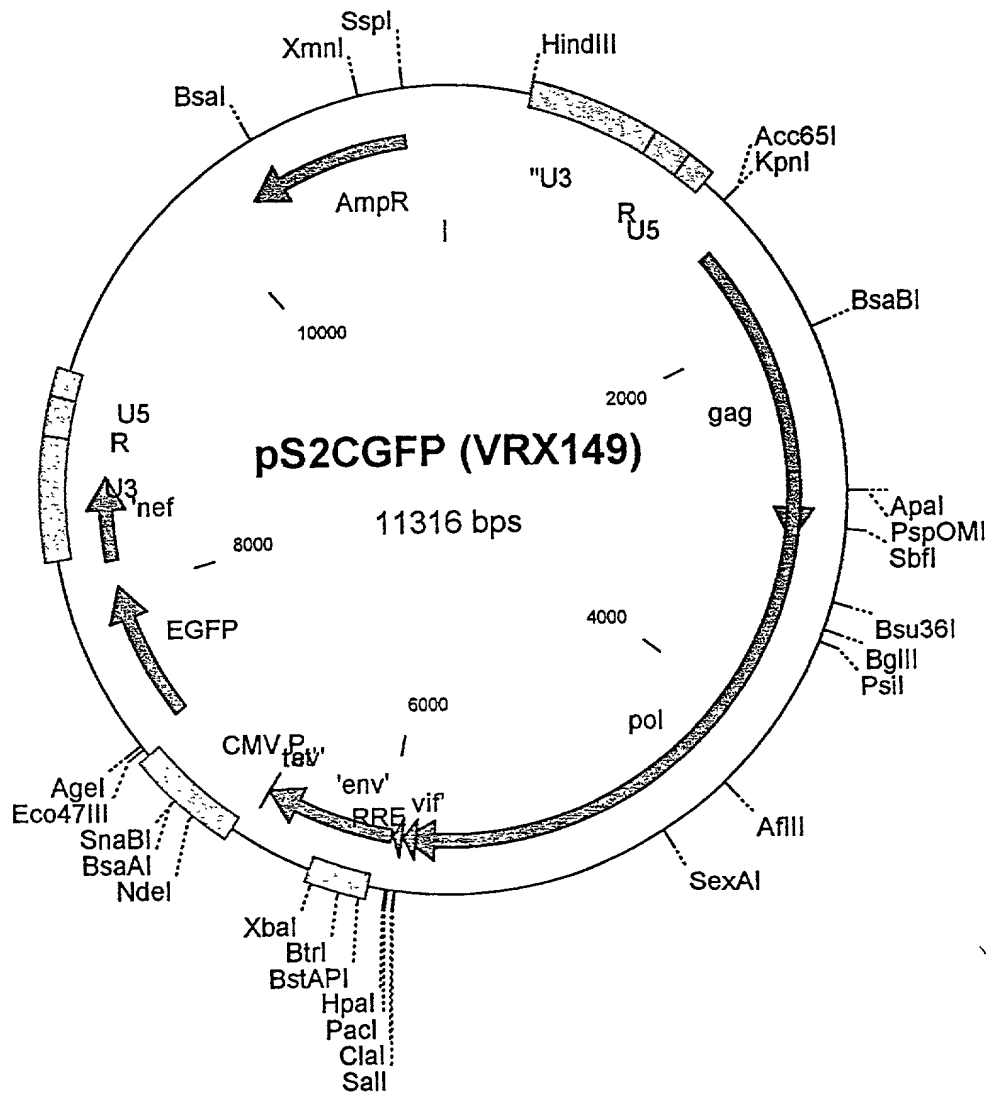
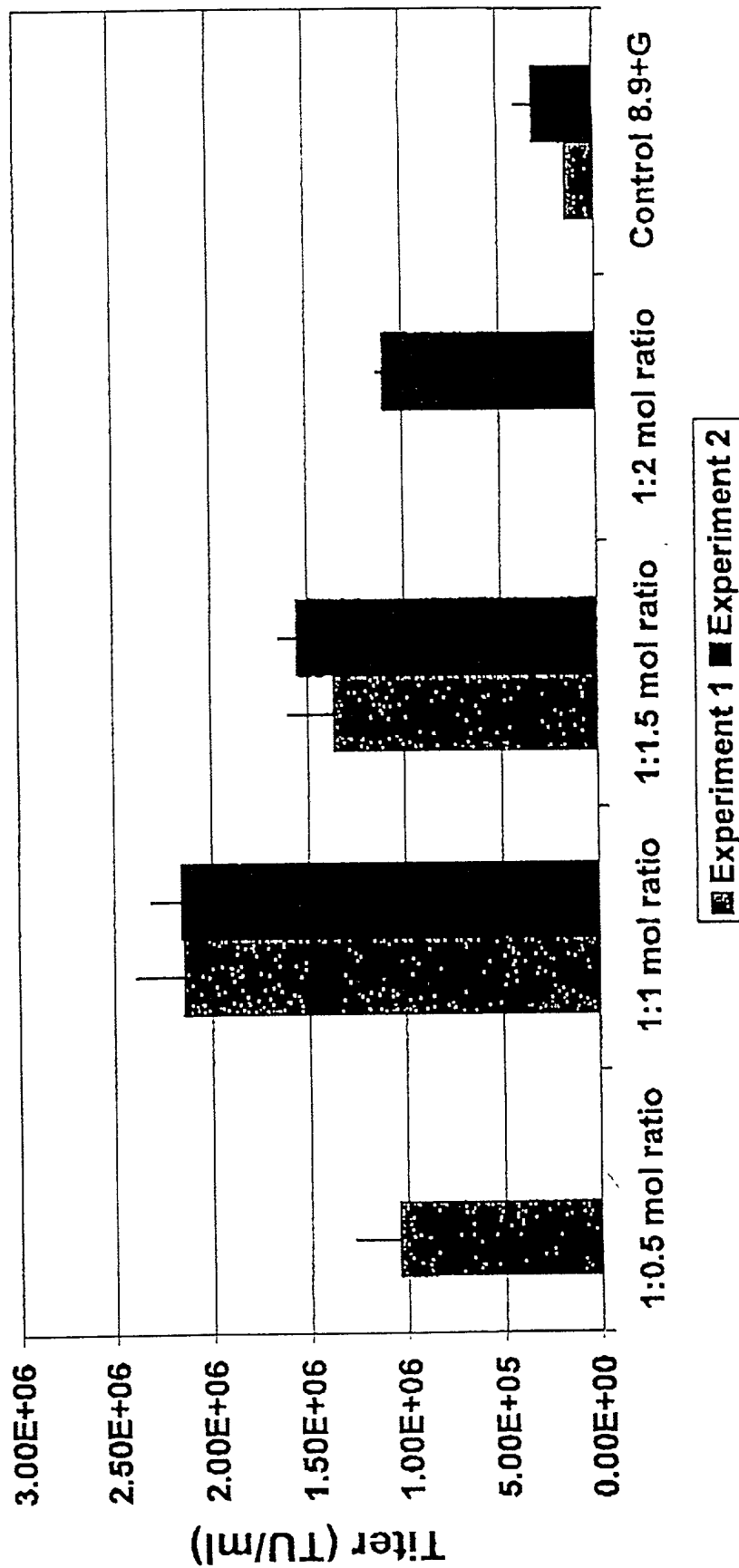


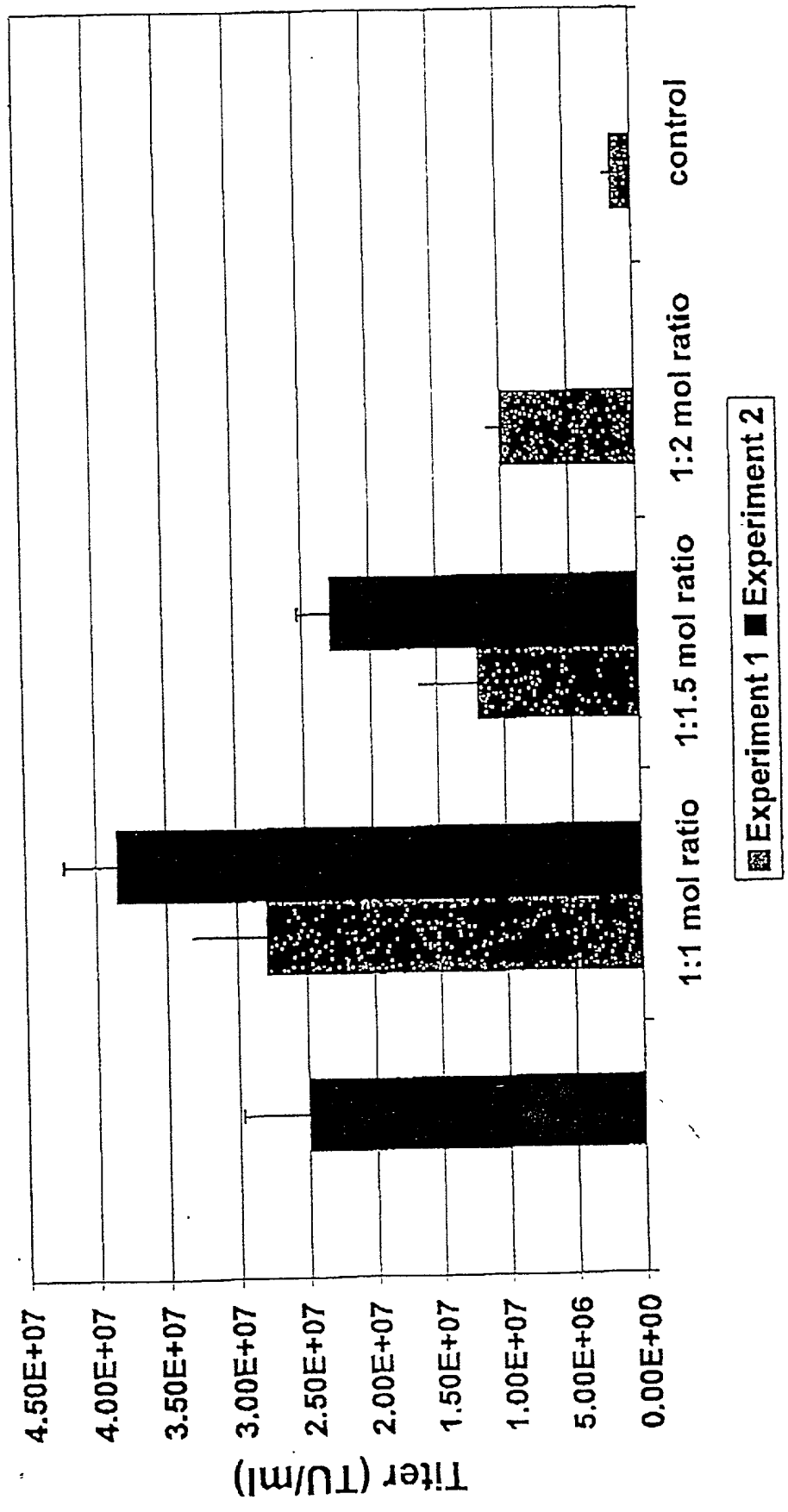
Fig 4B



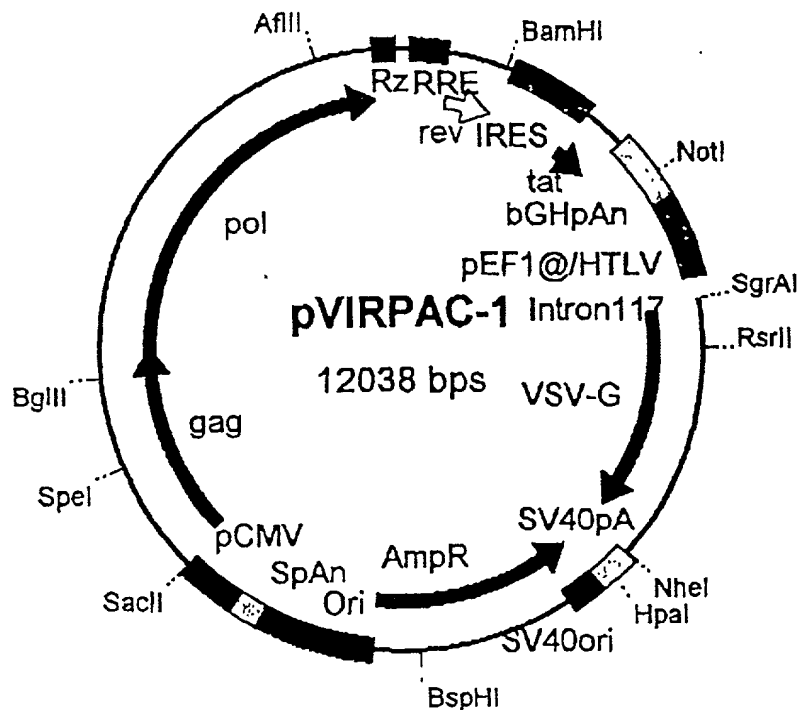
## Ratio Optimization for Packaging of pS1cGFP vectors.



# Optimization of vector to packaging ratio for pS2cGFP



# Packaging Construct



## New features:

- First 42 nt of gag are degenerated.
  - Tat and rev represented as cDNA.
  - First 208 nt of rev and last 183 nt of tat are degenerated.
  - RRE from HIV-2 is used instead of HIV-1 RRE.
- These features eliminate almost any homology with the vector plasmid, make system safer.
- Anti-U5 ribozyme is expressed within gag/pol/RRE cassette, further improving safety.
  - Gag/pol/rev/tat/RRE cassette and VSV-G expressed from the same plasmid. This feature may enhance packaging efficiency and titers of the vectors.

Fig. 6B Packaging Plasmid  
for Second Generation  
Vectors

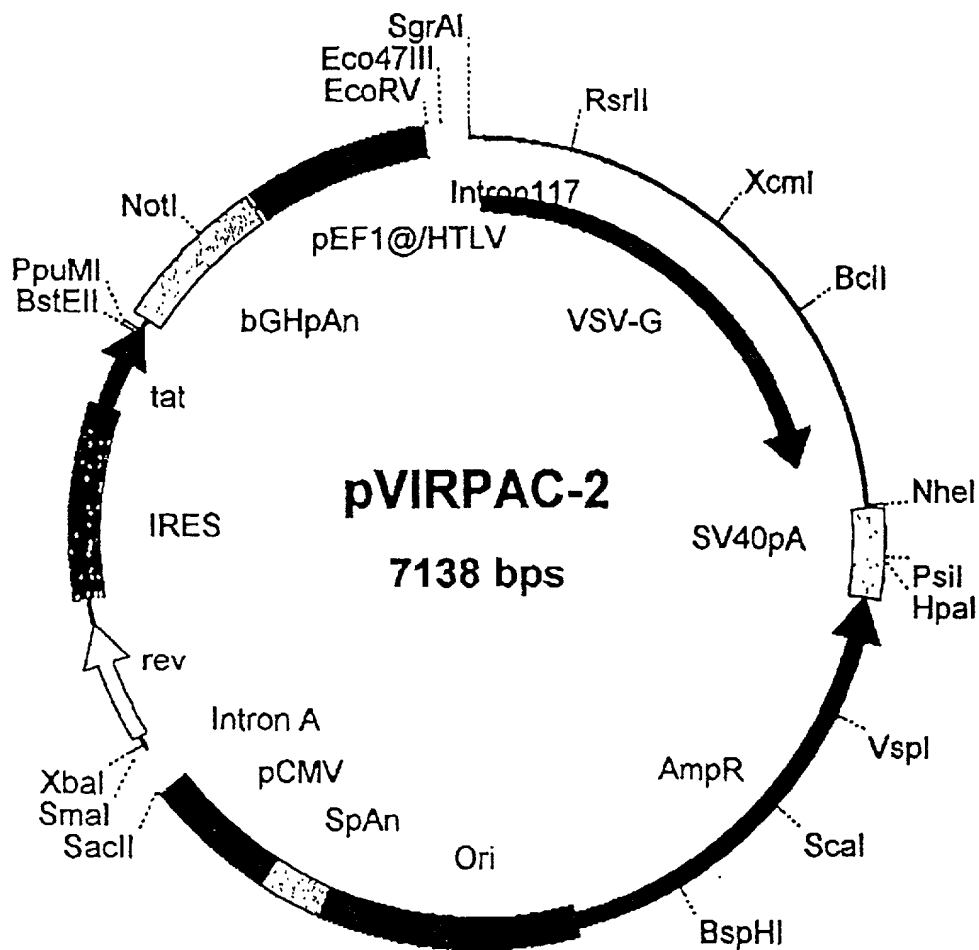


Fig. 6C Packaging Plasmid  
for First Generation Vectors

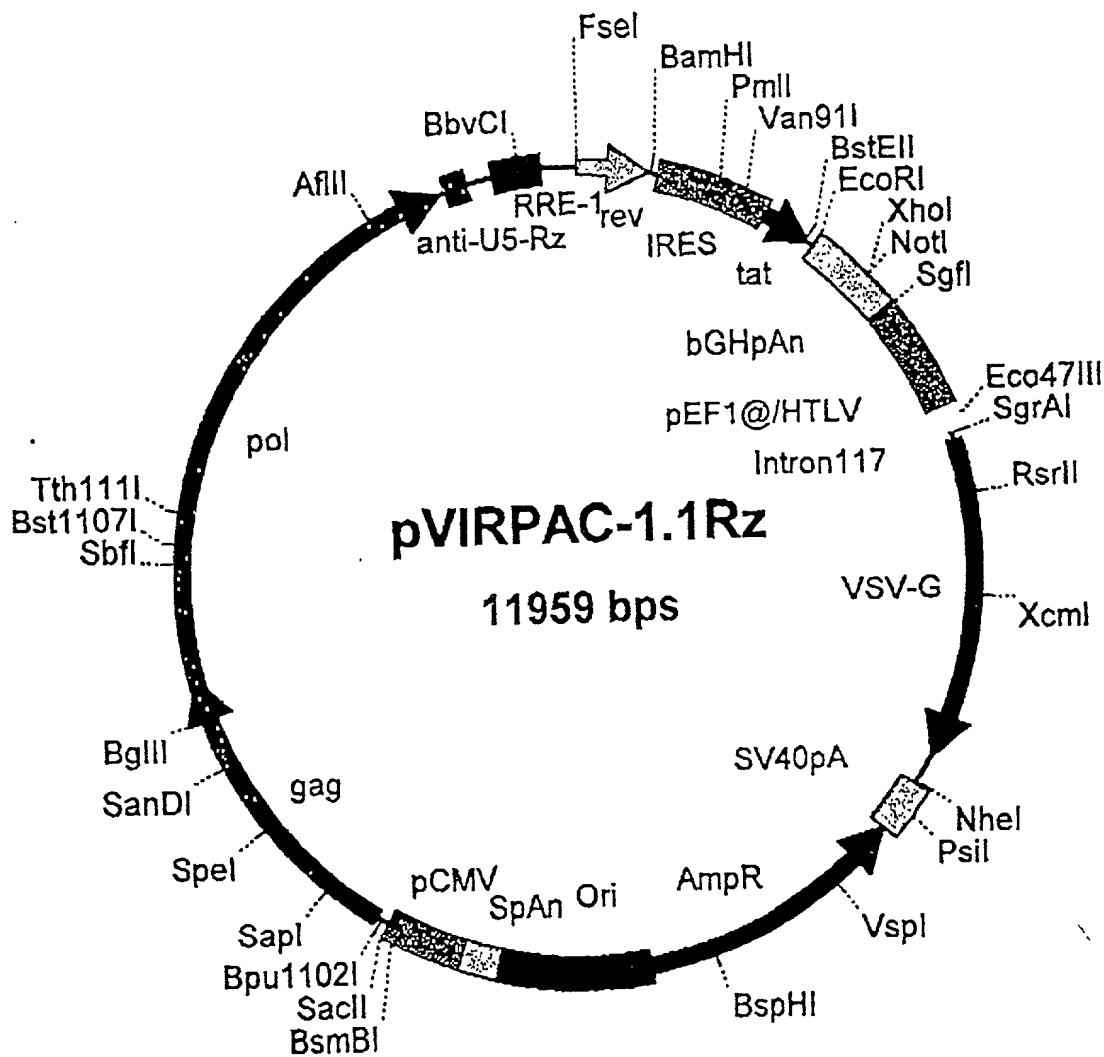




Fig 6 D

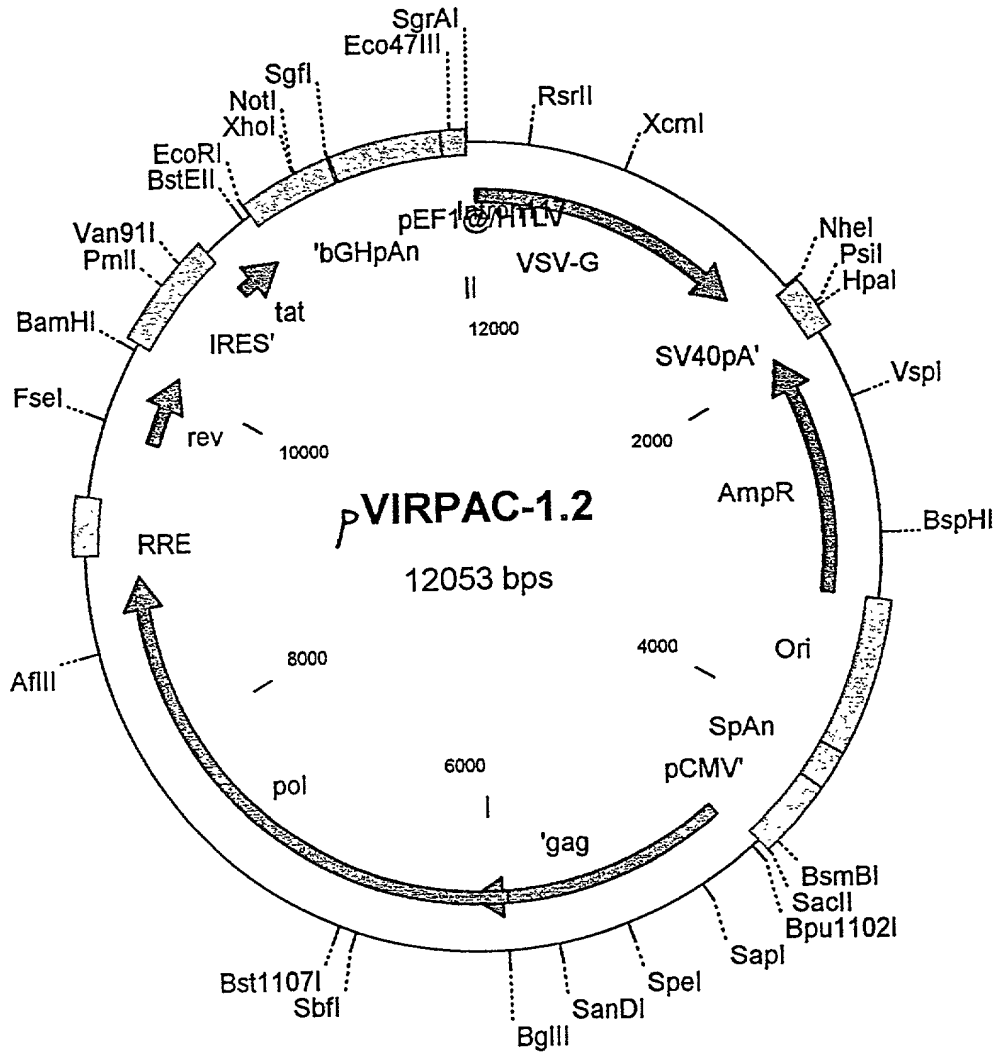


Fig 6E

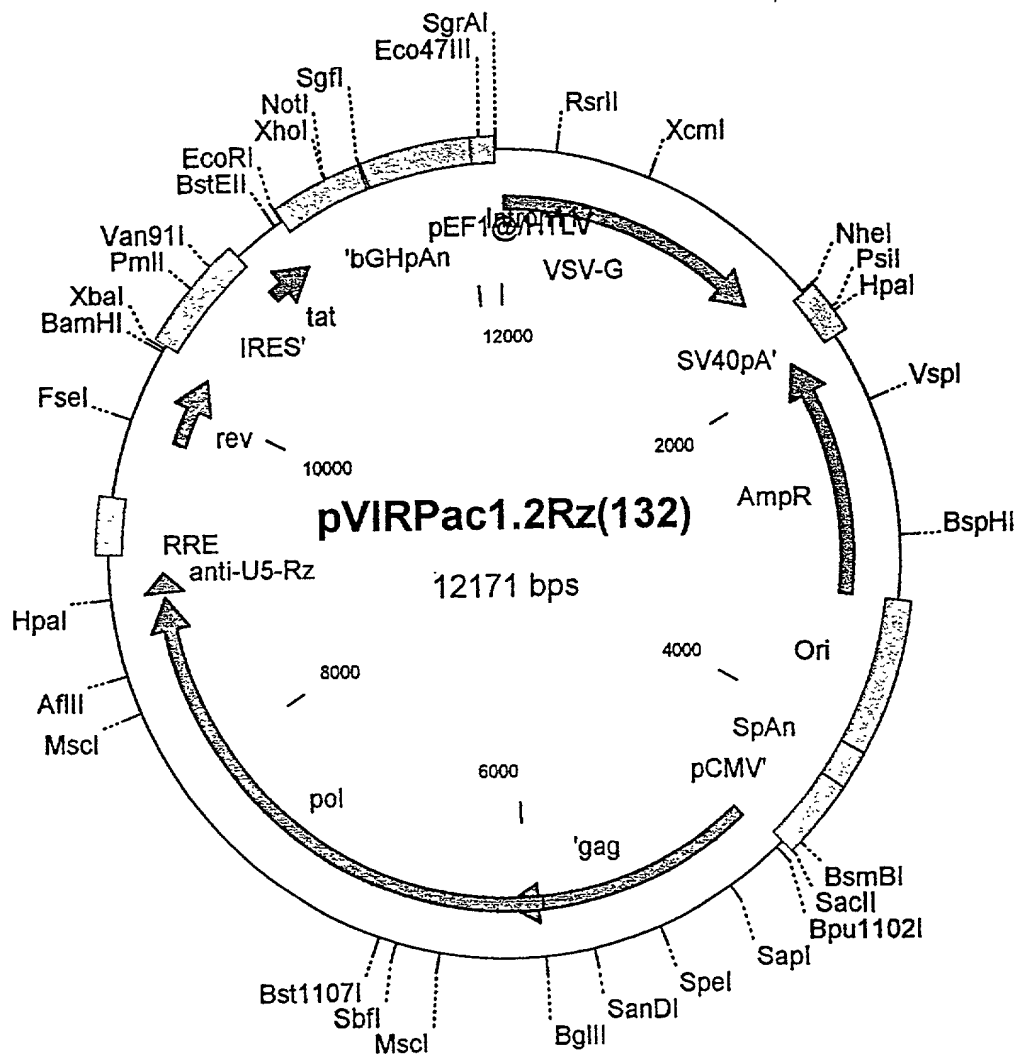


Fig 6F

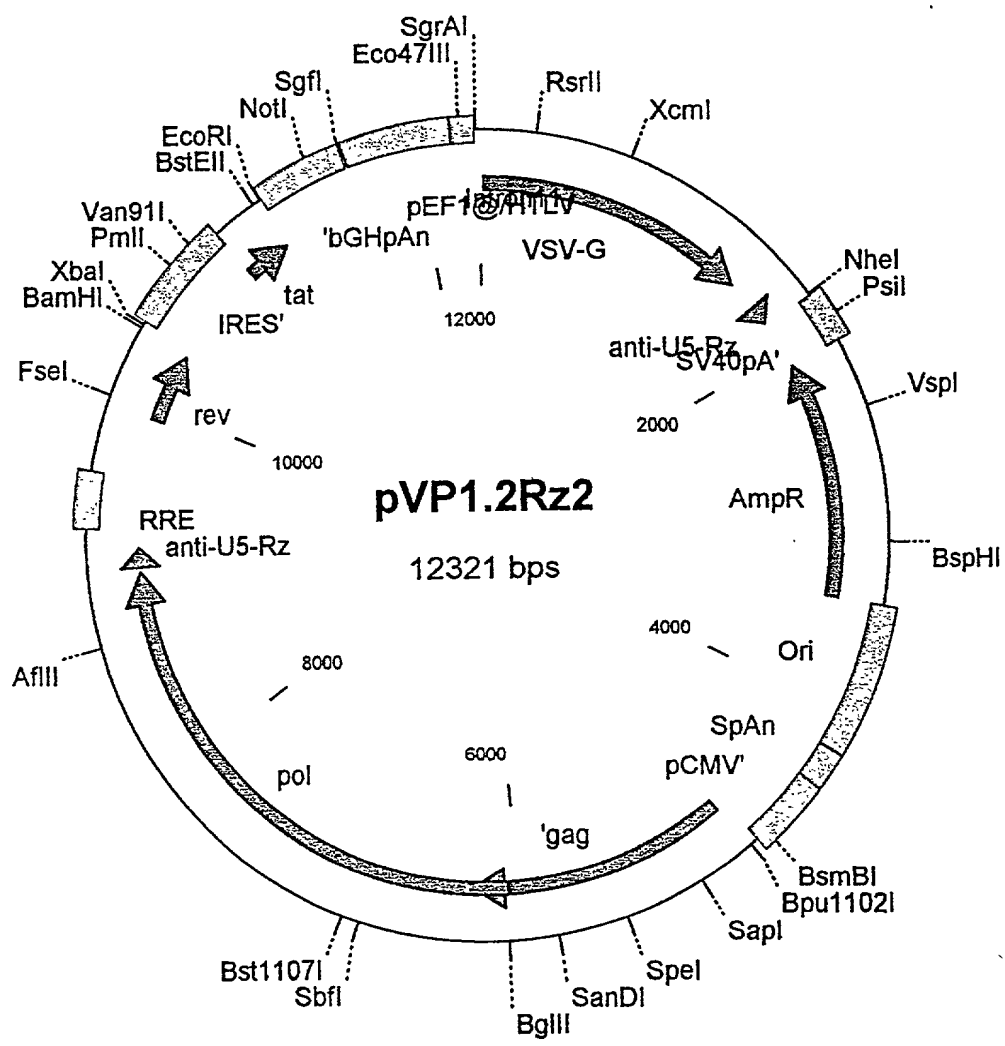
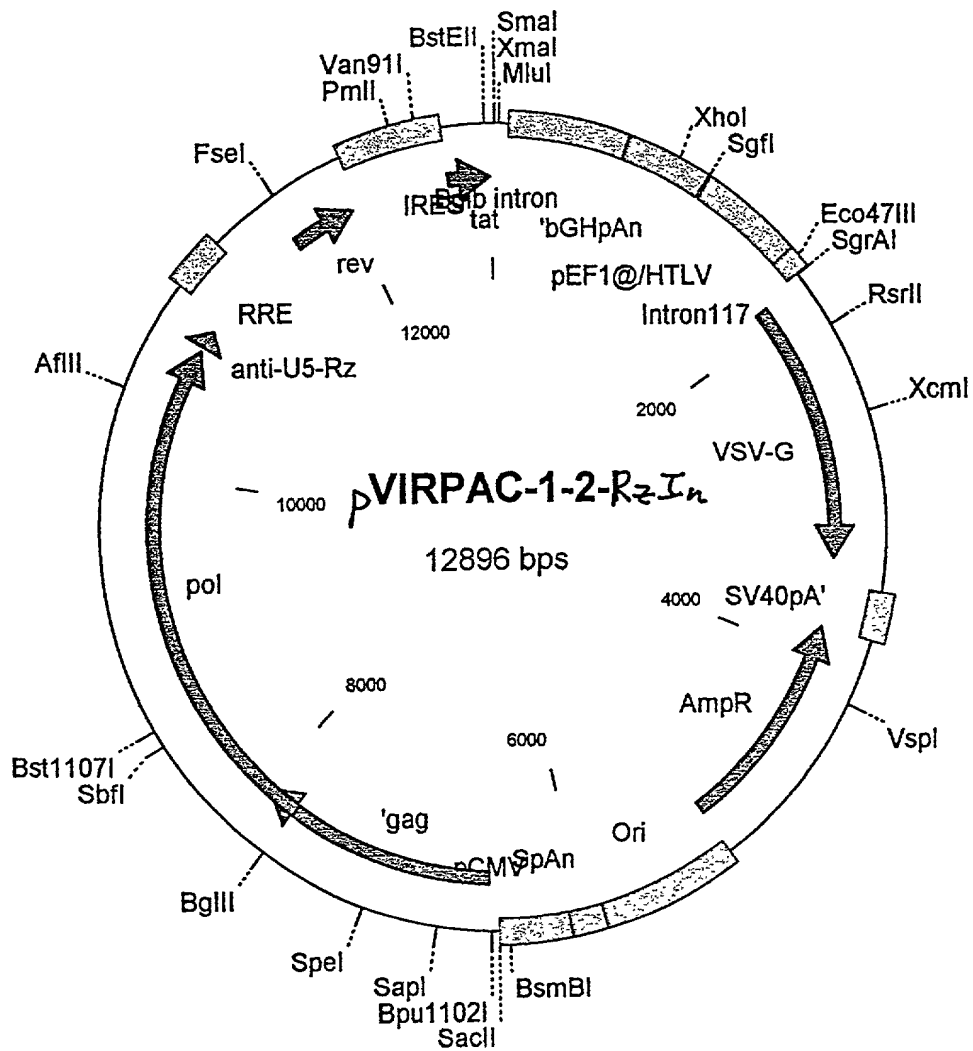
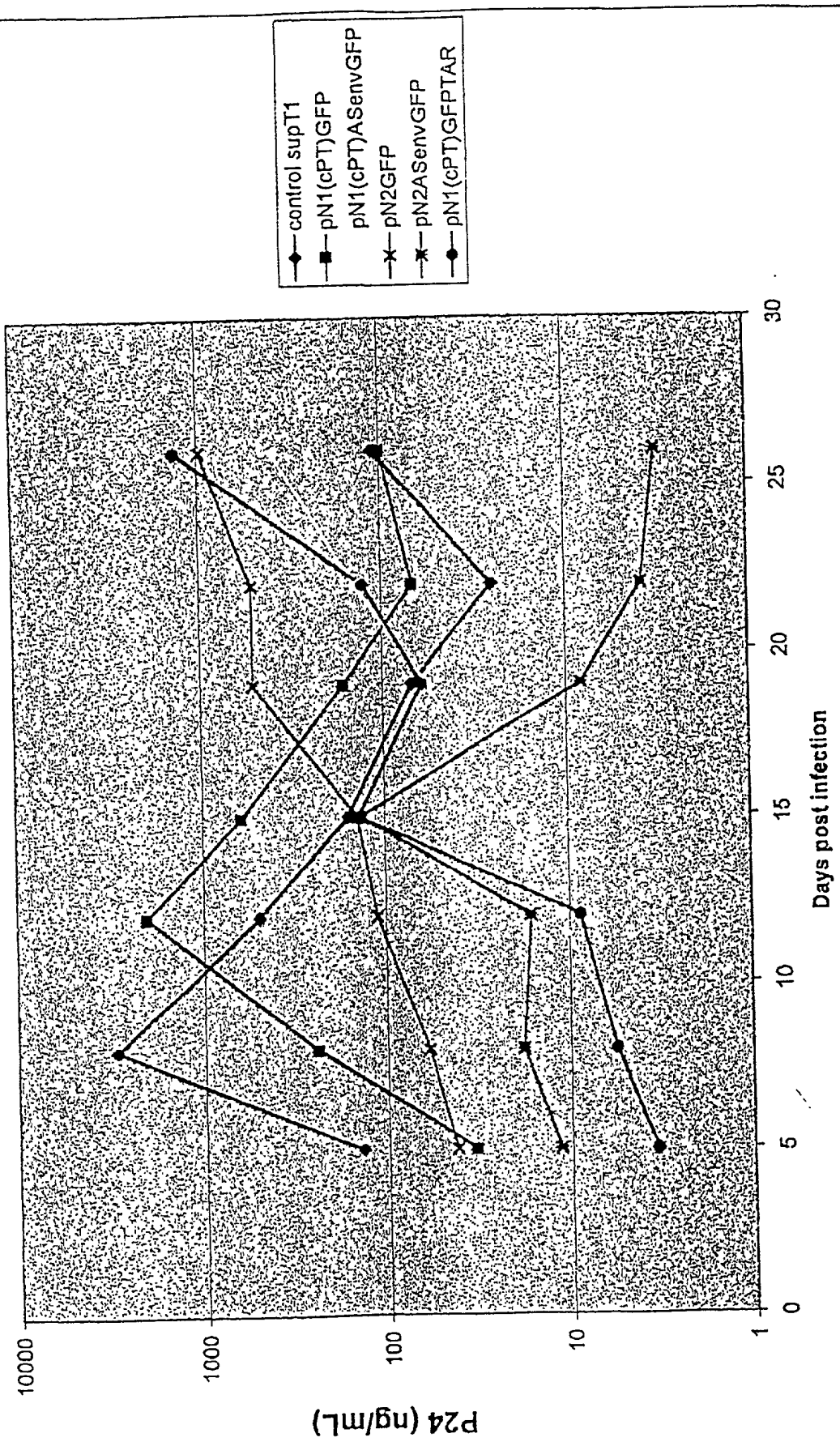


Fig 6G

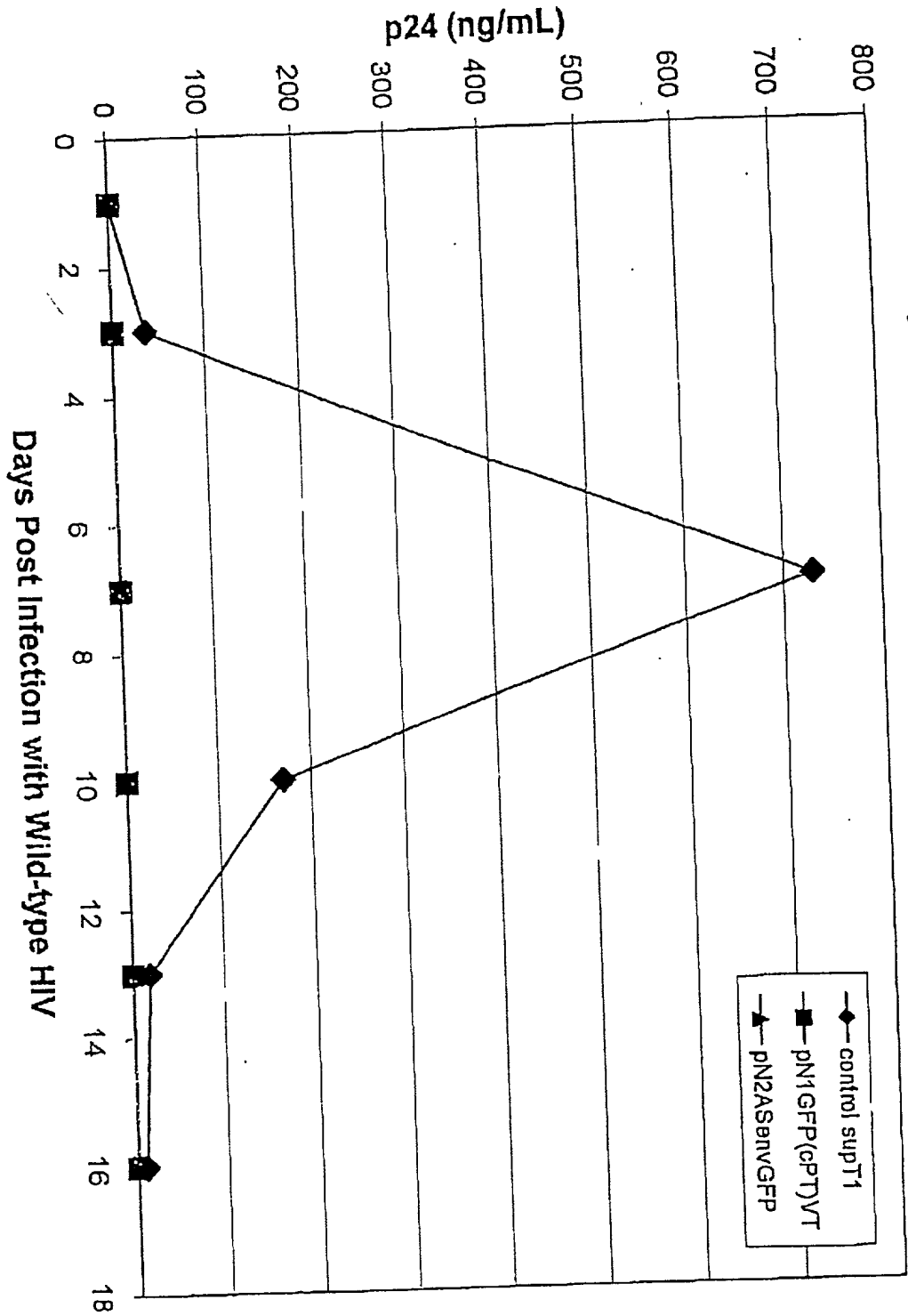


Sample	Titer (TU/ml)
pVP1.2	3.39E+07
pVP1.2RzIn	3.38E+07
pVP1.2Rz	3.25E+07
pVP1.2Rz2	1.92E+07
Average	

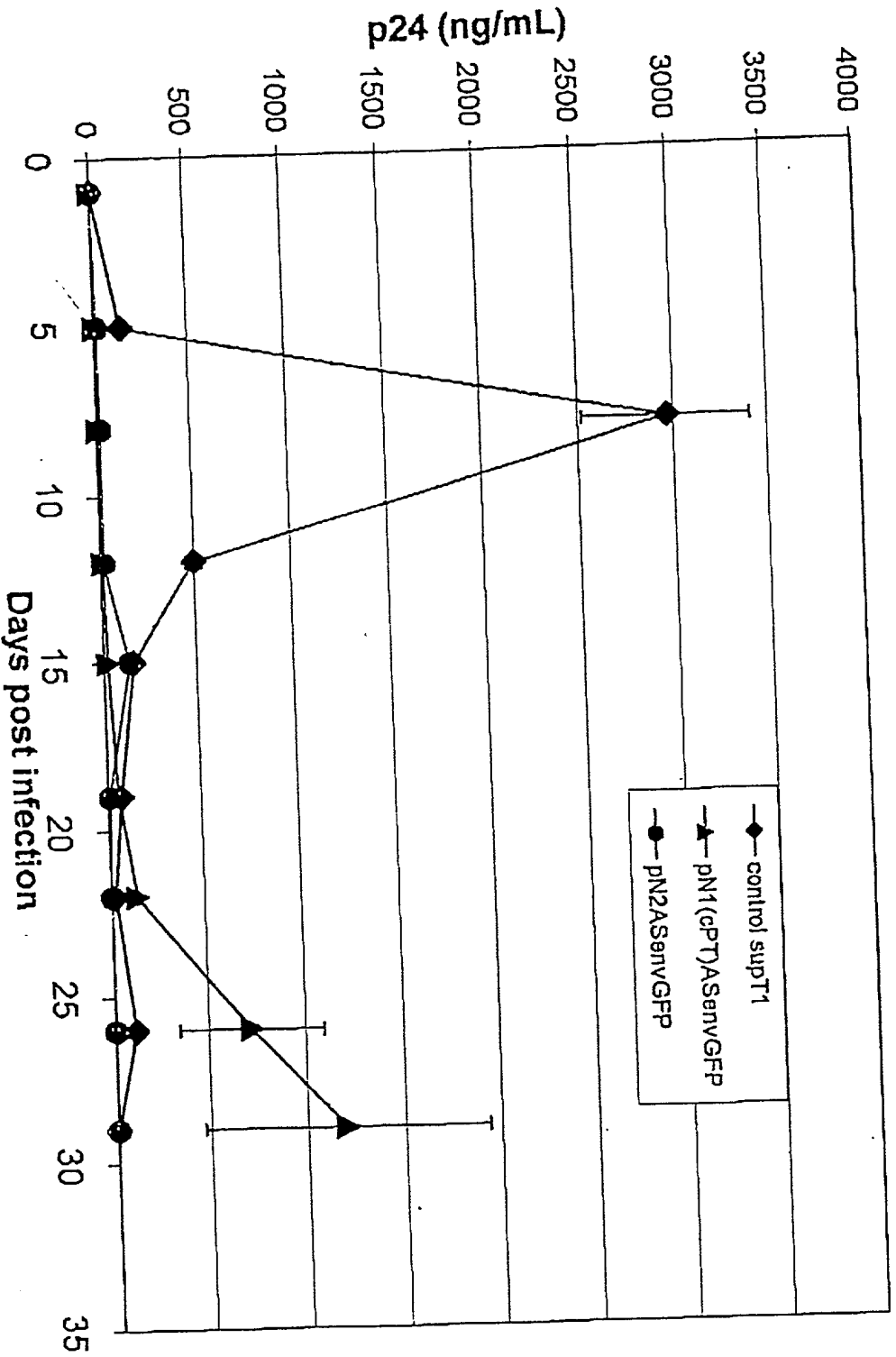
Challenge #26, MOI 0.1, 100% transduced



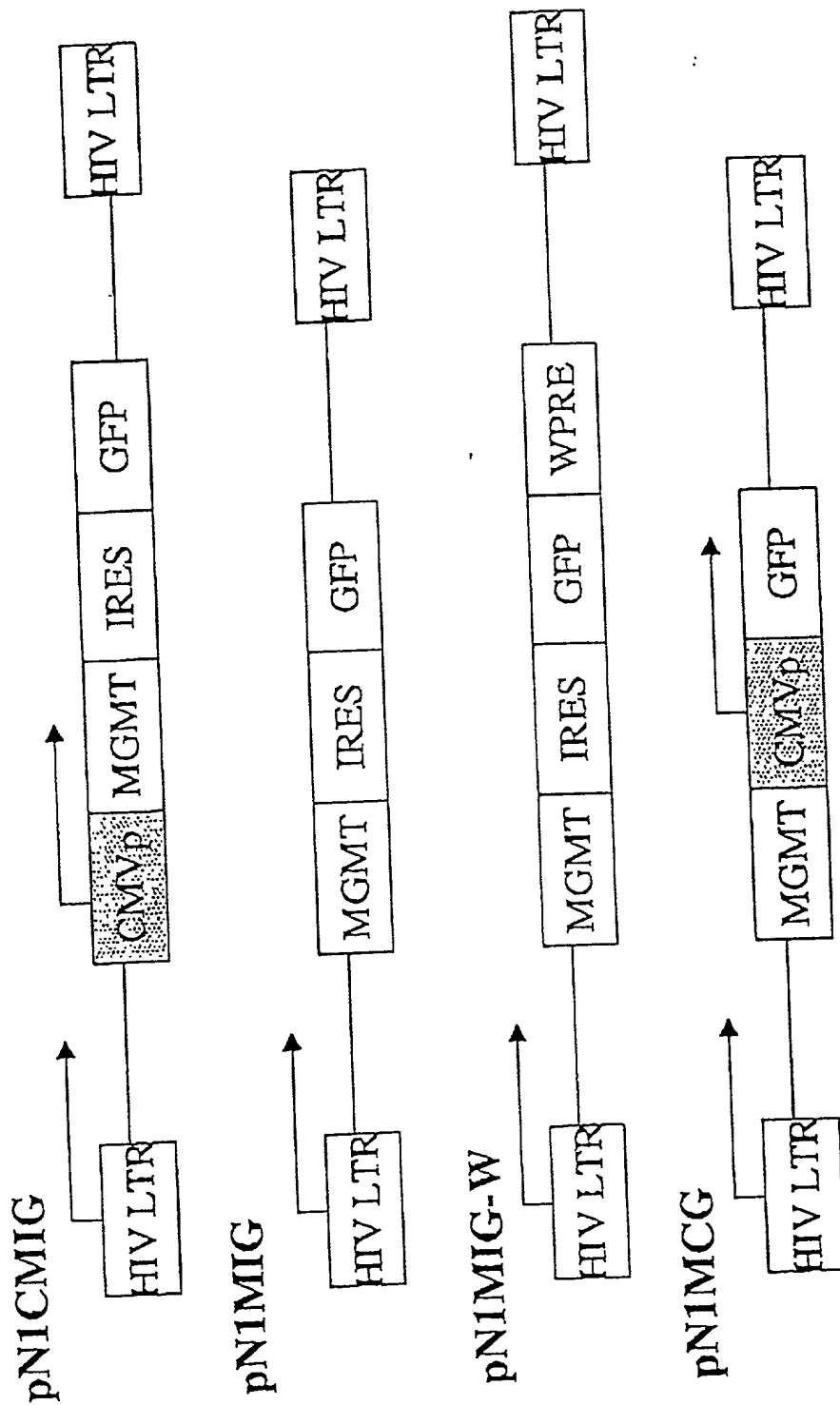
Potent Inhibition of Wild-type HIV Replication  
by Smartvector Containing Human T cells



# Potent Inhibition of Wild-type HIV Replication by Smartvector Containing T Cells







# Expansion of SupT1 cells after BG & BCNU

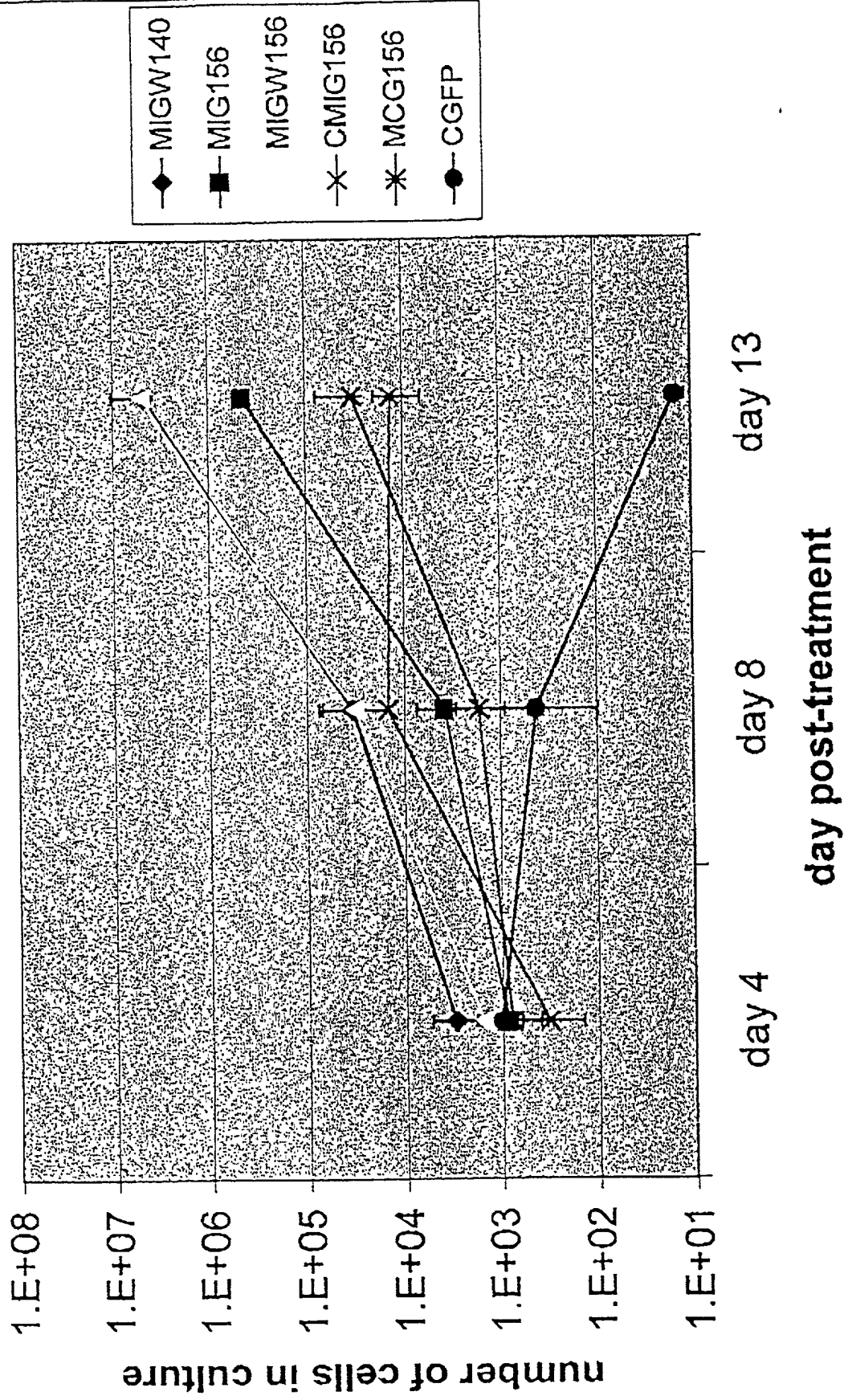
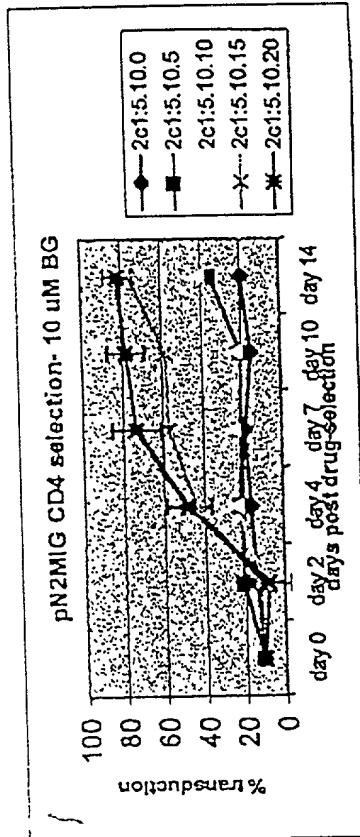
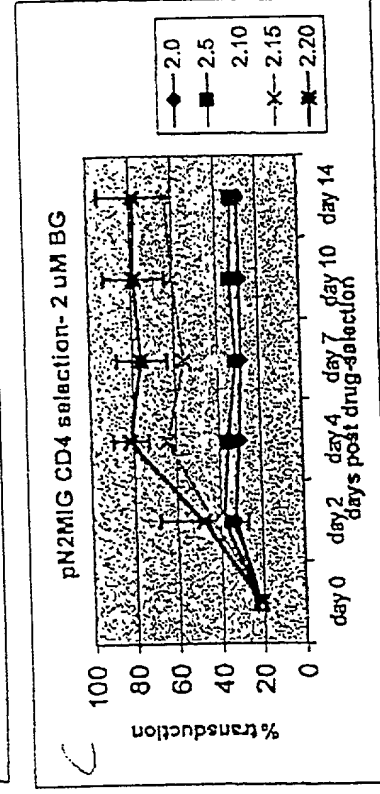
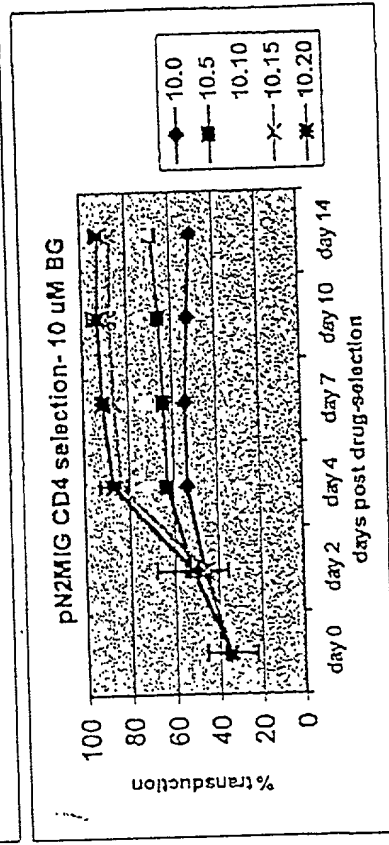
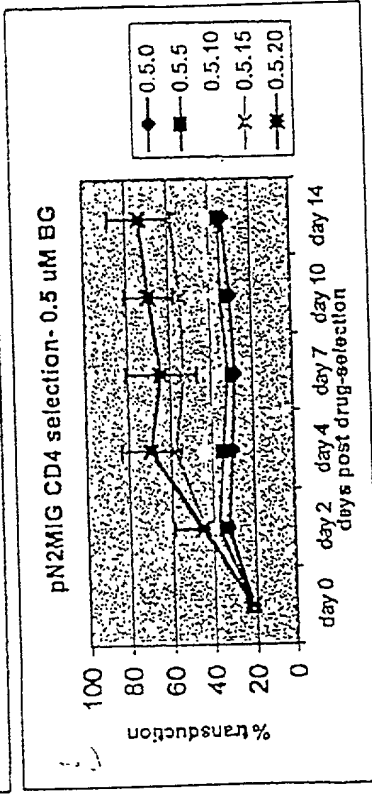
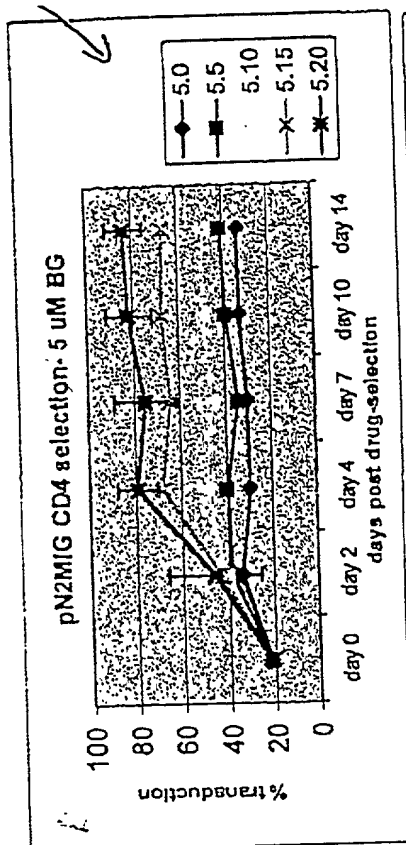
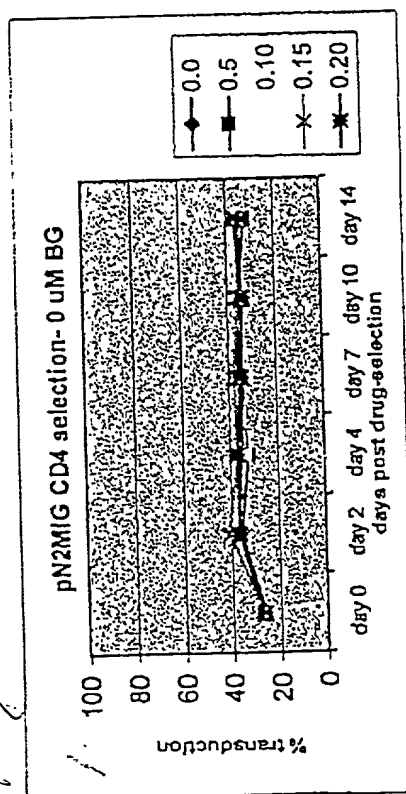
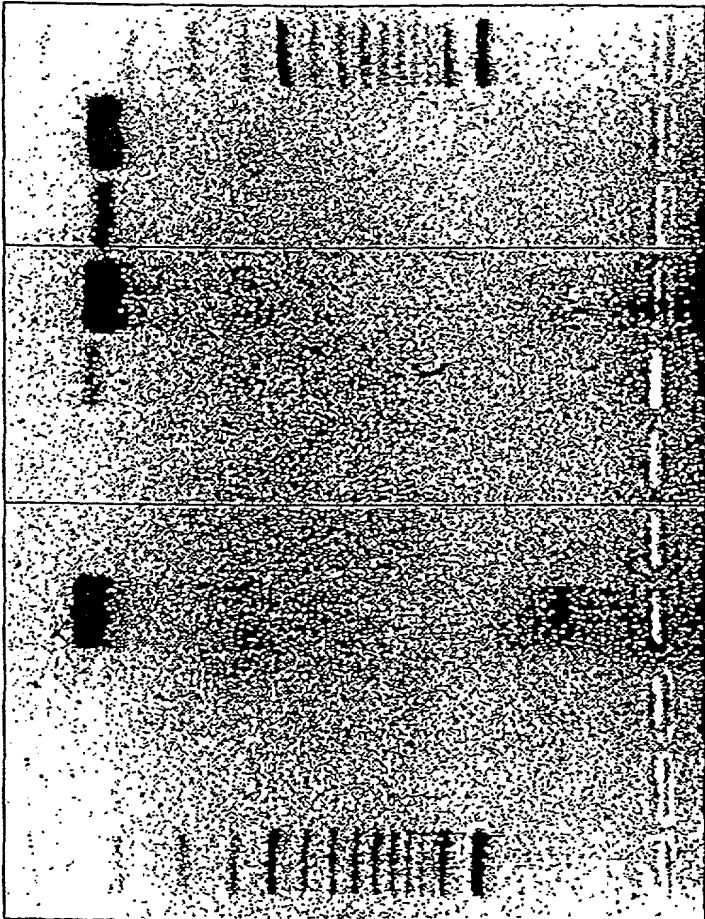


Fig 11





Marker

1 pN1 CGFP 1C exp 30

3 pN1 CGFP 2C exp 30

1-4 pVP1.2

9-12 pVP1.2 Rz

13-16 pVP1.2 Rz2

pNL4-3 with DNase I

pNL4-3 without DNase I

Amp. Neg. Control

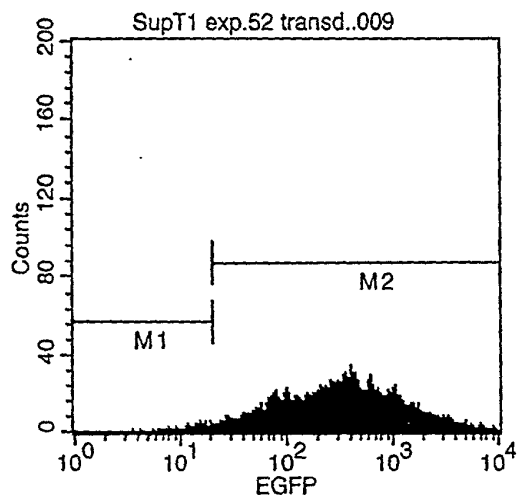
Extraction Neg. Control

Marker

034404.0344

Fig  
2

Fig 13A



Histogram Statistics

File: SupT1 exp.52 transd..009 Sample ID: SupT1 ex  
 Tube: pN1(cPT)ASenvGFP 452 a Acquisition Date: 25-

Marker	Left, Right	Events	% Gated	% Total	Mean
All	1, 9910	6356	100.00	63.56	570.39
M1	1, 20	95	1.49	0.95	13.86
M2	20, 9910	6262	98.52	62.62	578.74

Fig 132

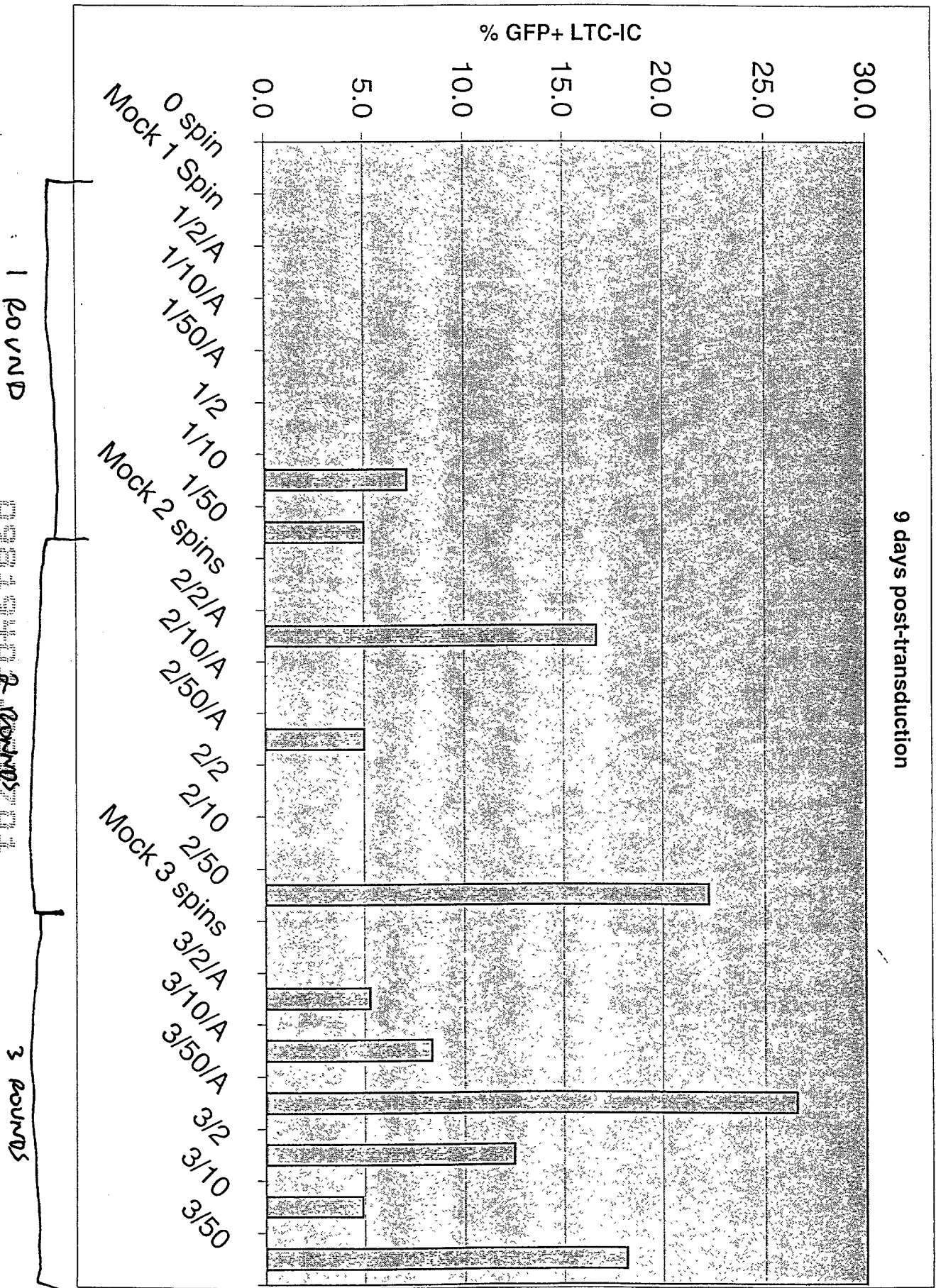


Fig 14A

# Vsv-G, RD114 AND RD114-VSV-G CHIMERIA ENVELOPE PROTEINS

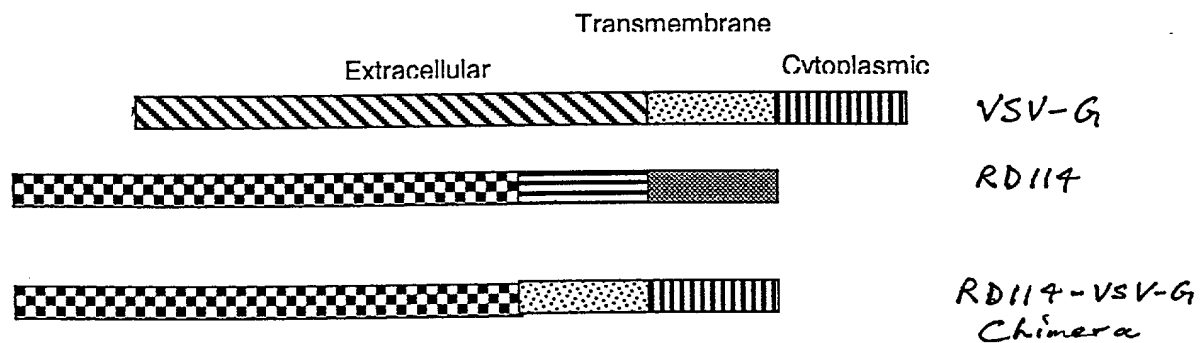


Fig 14B

Titers of RD114-pseudotyped HIV-1 vectors in HT1080

Envelopes	IU/ml
VSV G	3.5x10e6
Rabies virus G	1.6x10e6
RD114WT env	1.5x10e5
RD114E env	3.8x10e4

Fig 15A

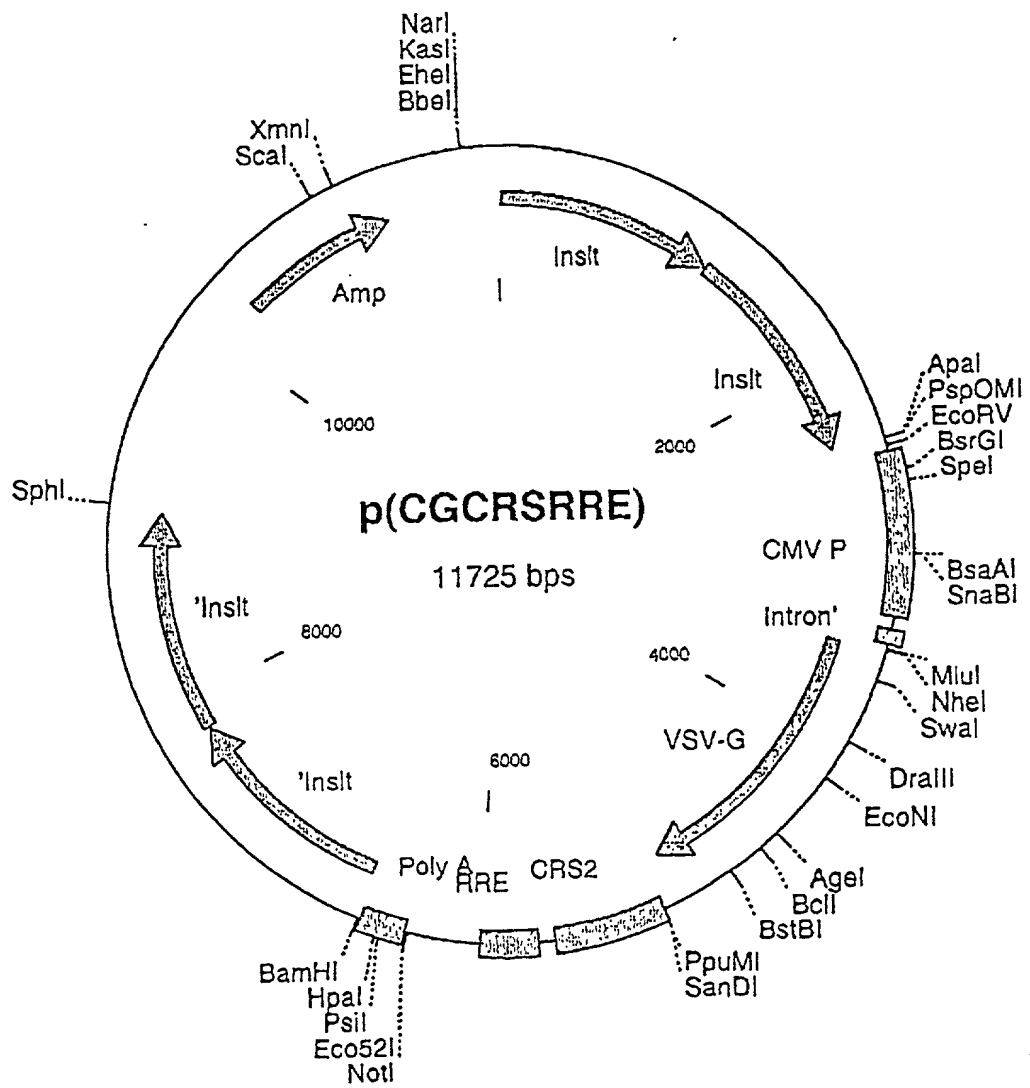




Fig 13E

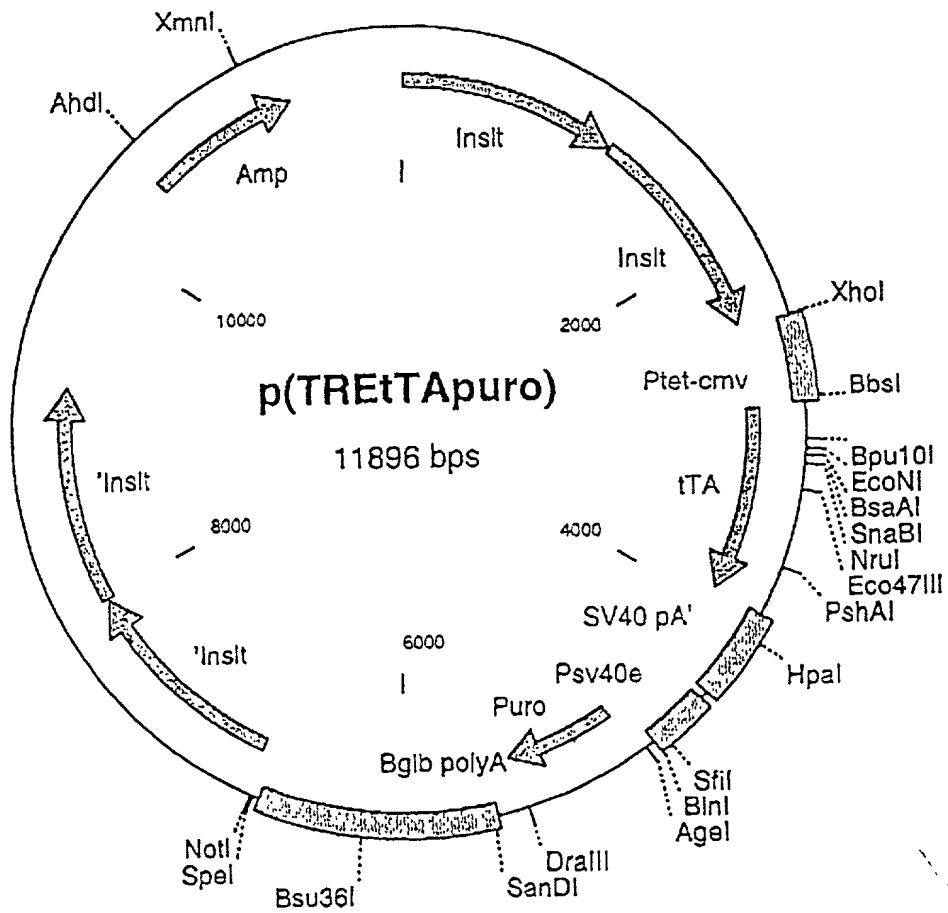


Fig EC

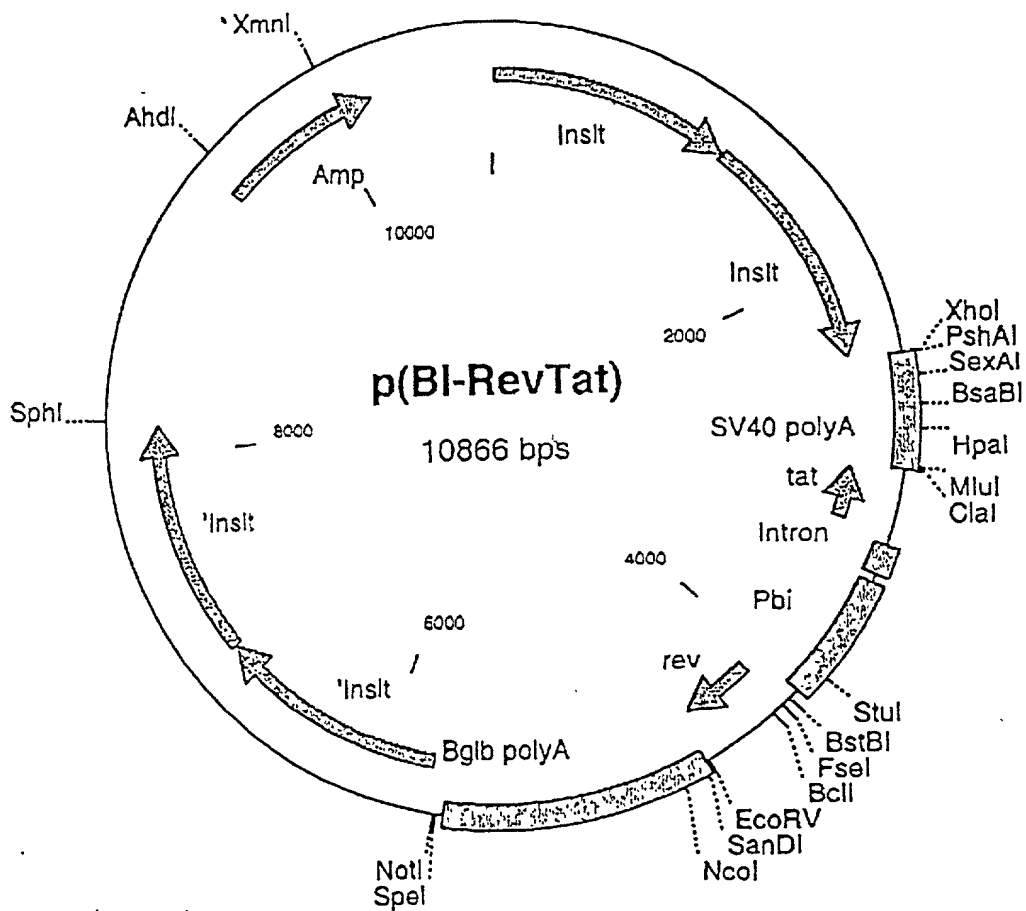


Fig 15D

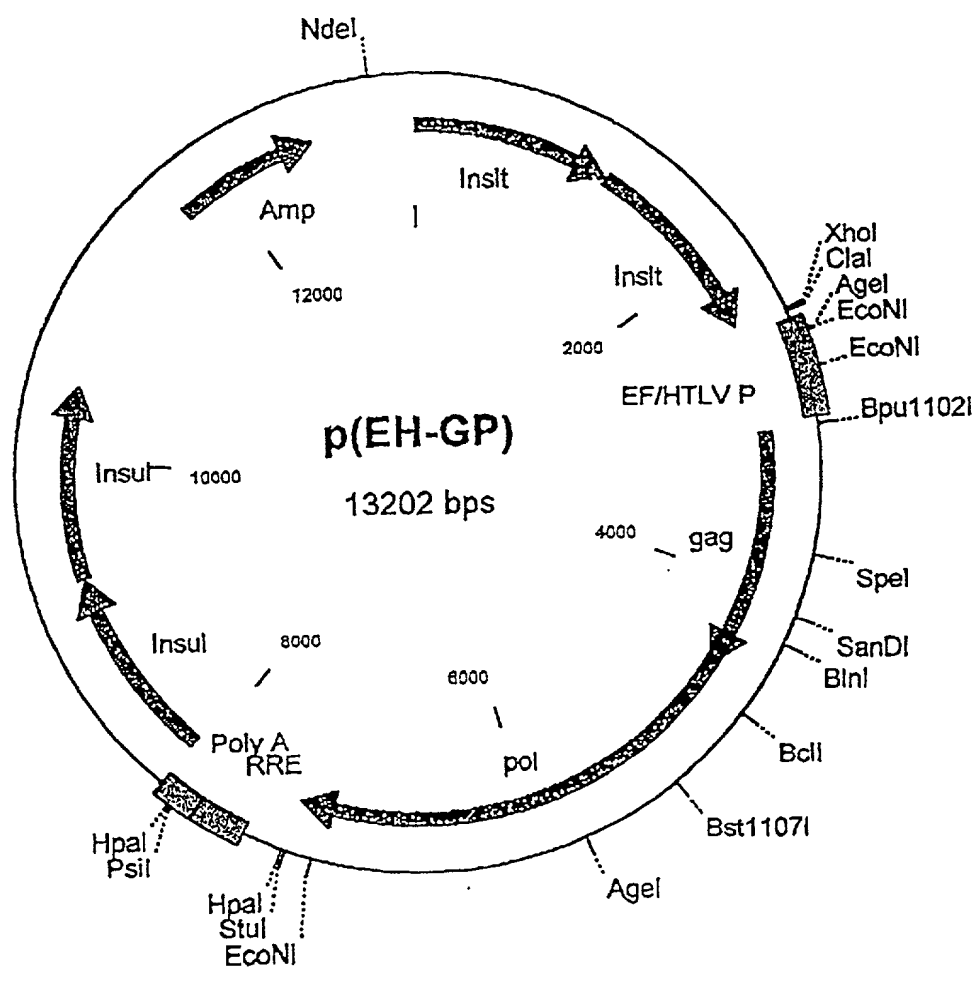


Fig 15E

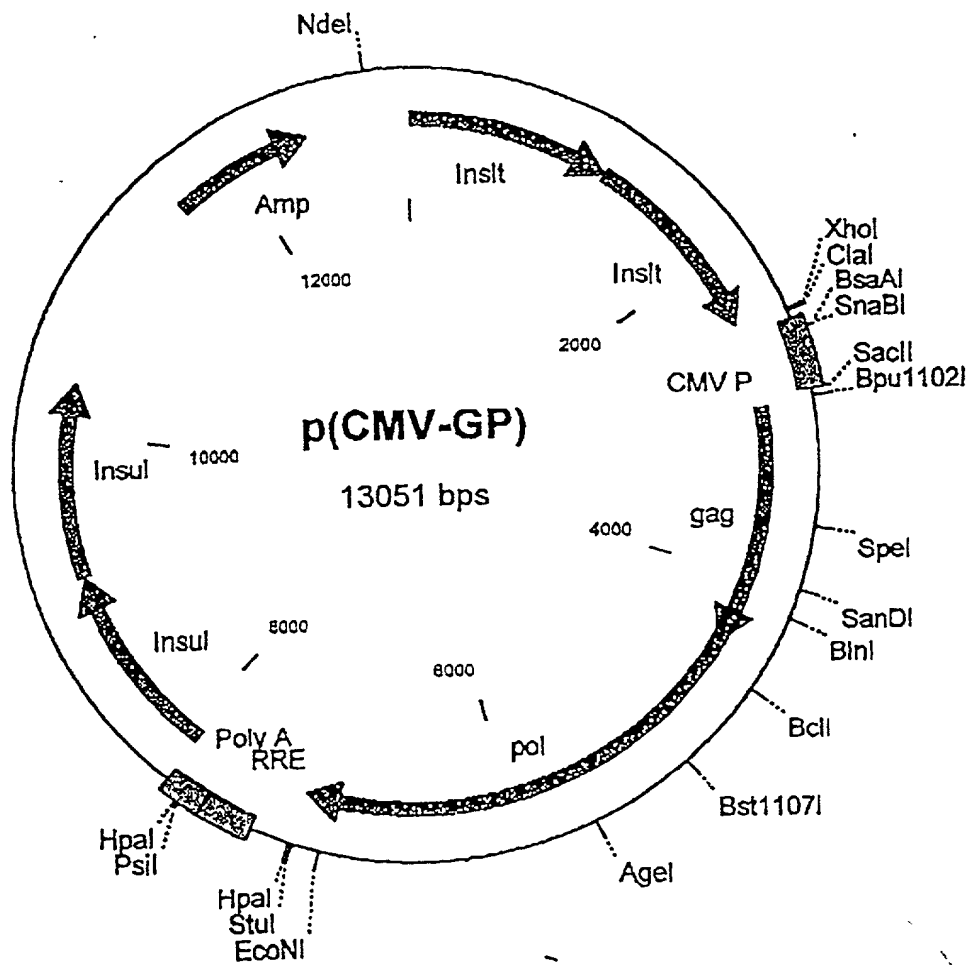


Fig 15f

# Rev dependent VSV-G constructs

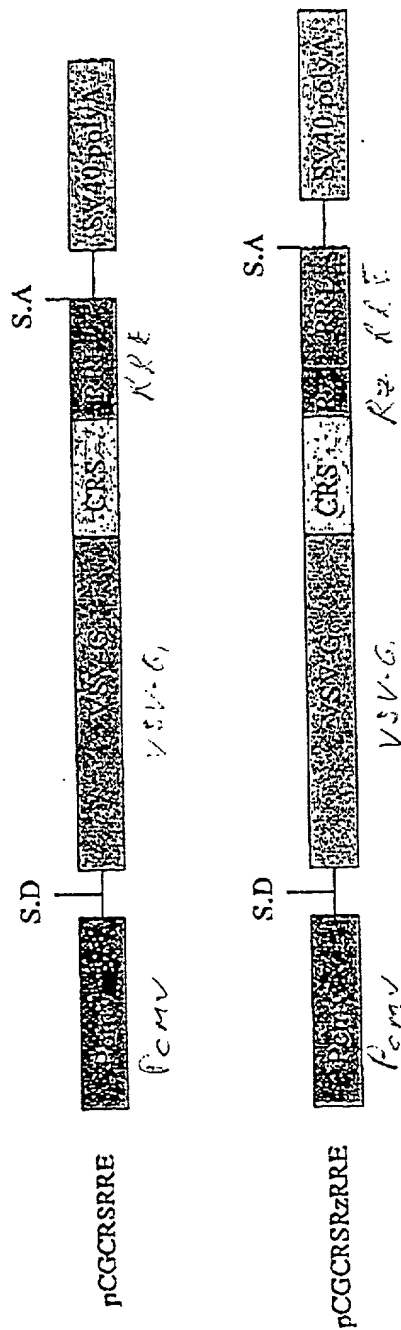
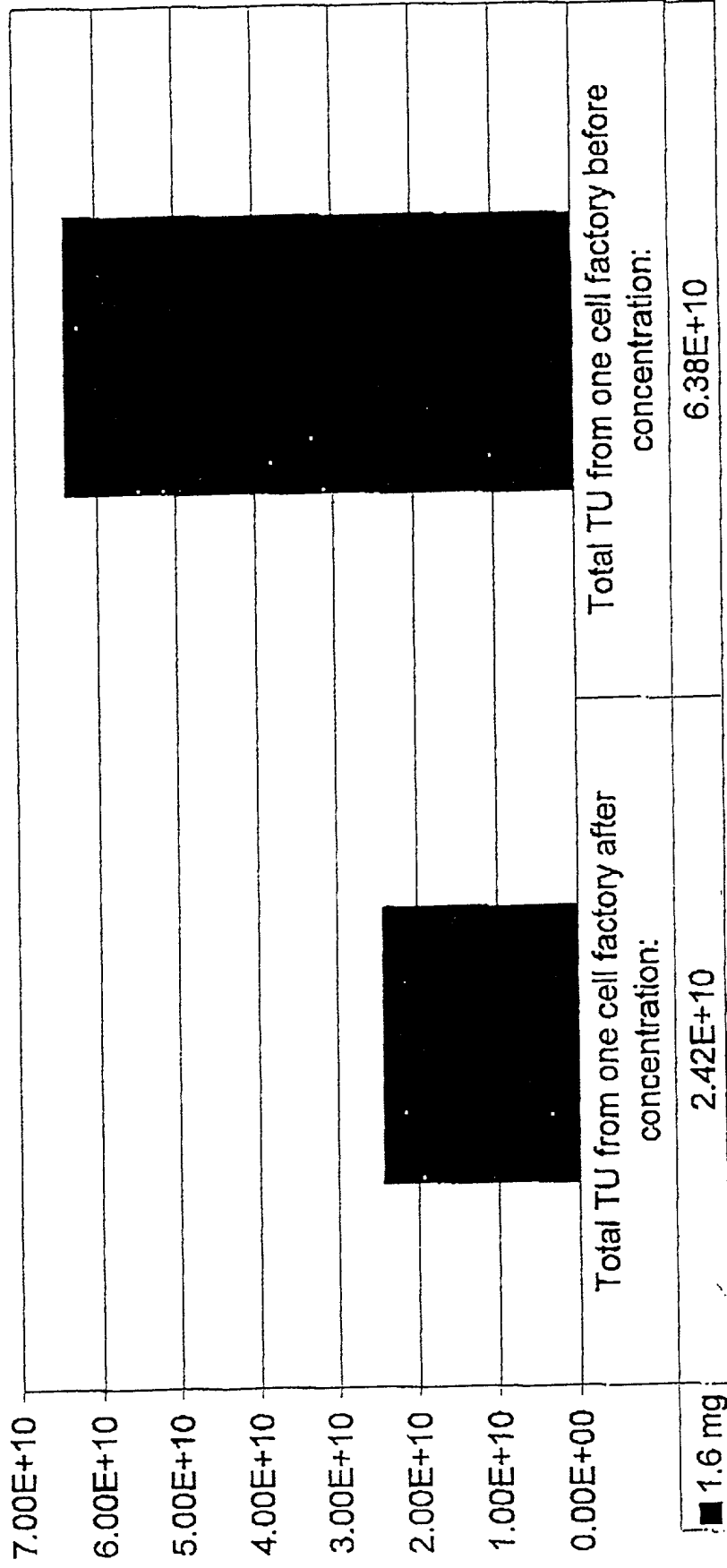


Figure 2

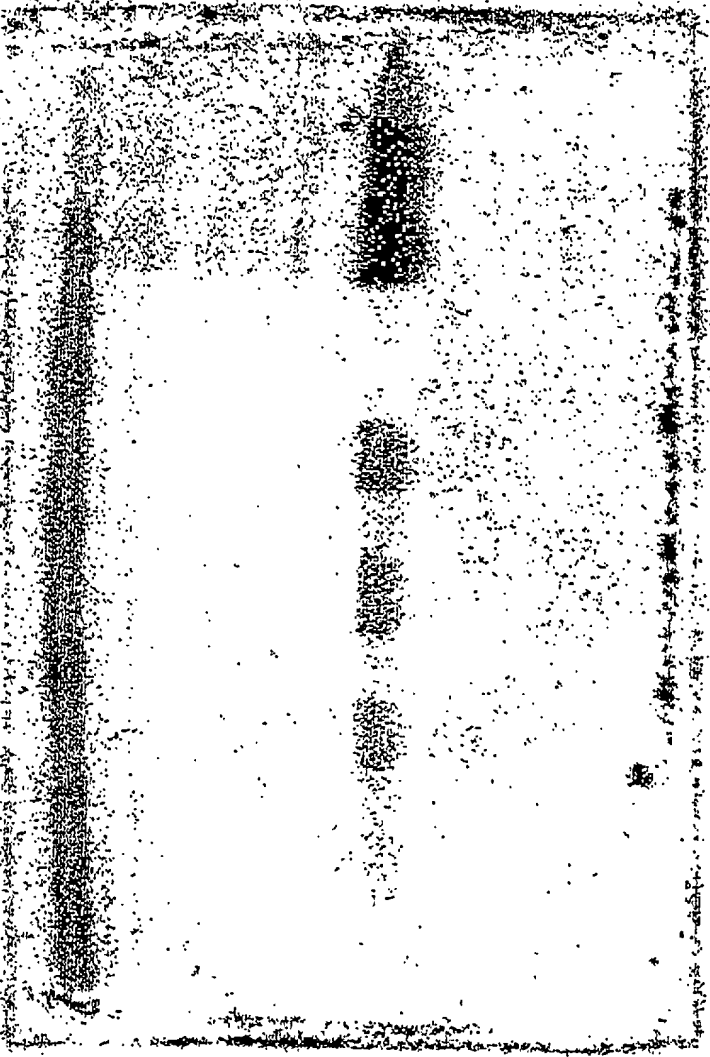
# Yield of pN1(cPT)GFP Vectors per Cell Factory before and after Concentration in HeLa-tat Cells.



AFTER  
CONCENTRATION

BEFORE  
CONCENTRATION

Fig 17



Tetracycline

1 2 3 4 5 6 7 8 9 10 11 12 13

Lane

293G

X PCMV-VSV-G  
 W PCGCRS-RRE-G  
 S PCGCRS-RRE-IM  
 H PCGCRS-RRE-H  
 IE PCGCRS-RRE-IE  
 2E PCGCRS-RRE-2E

4300 3600 2900 2200 1500 1000 750 500

REMOVE TETRACYCLINE

TO INDUCE EXPRESSION OF HIV-G

THAT IS ~~DEPENDENT~~ LEU

DEPENDENT.

2E-HIV-2 env SD

IE-HIV-1 env SD

H-Humanuskyd's SD  
 Analog

IM-HIV-1 major SD

G-β-globin SD

- PCI

+ = PGMV-Rev

Fig 18

# Influence of the Buffer on Vector Recovery after Storage for 3-5 Weeks at Different Temperatures

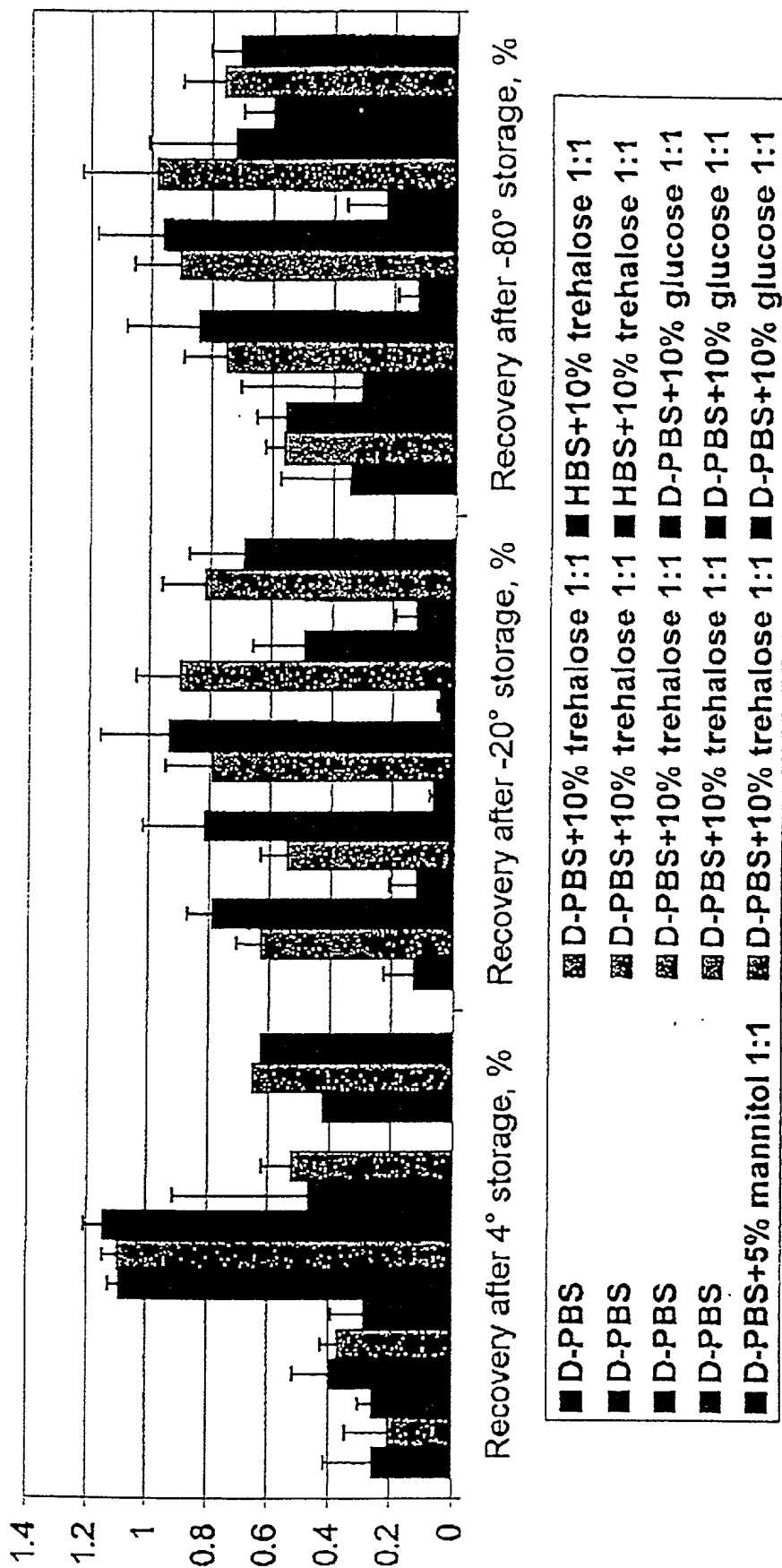




Figure 19

